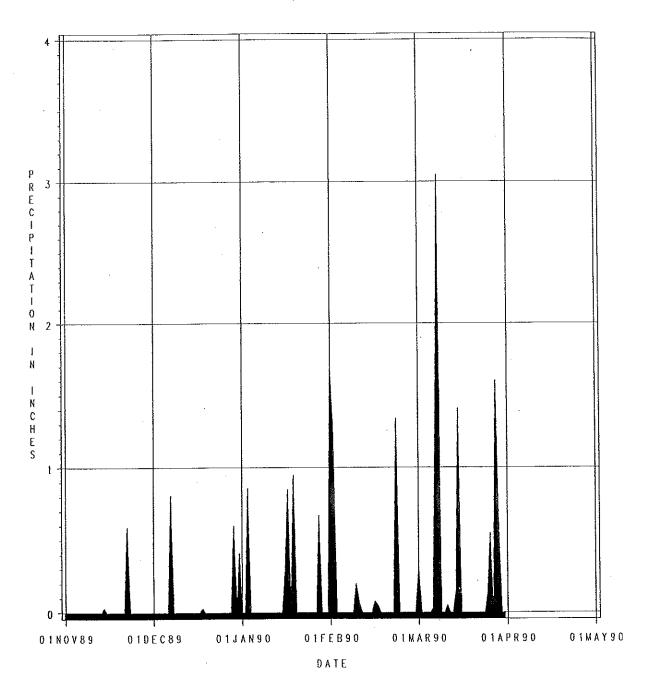
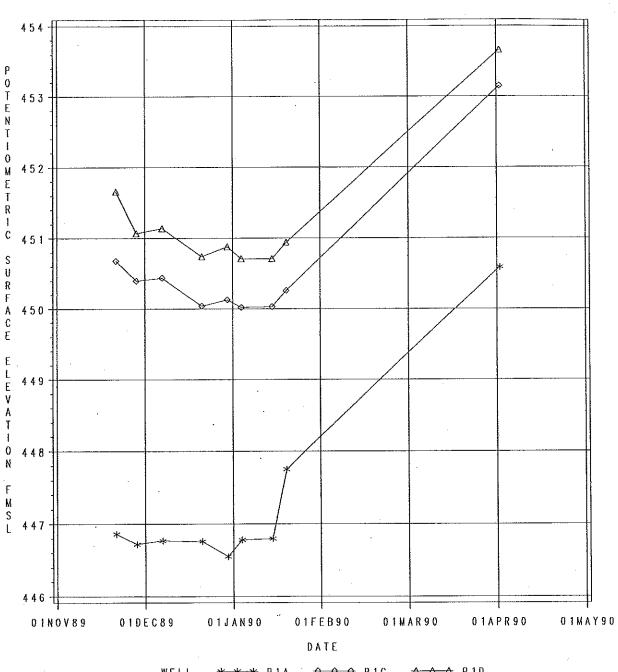
APPENDIX C WELL HYDROGRAPHS

THOMASON LUMBER COMPANY PRECIPITATION EVENTS - BROKEN BOW 1 N. BROKEN BOW, OK NOVEMBER, 1989 - MARCH, 1990

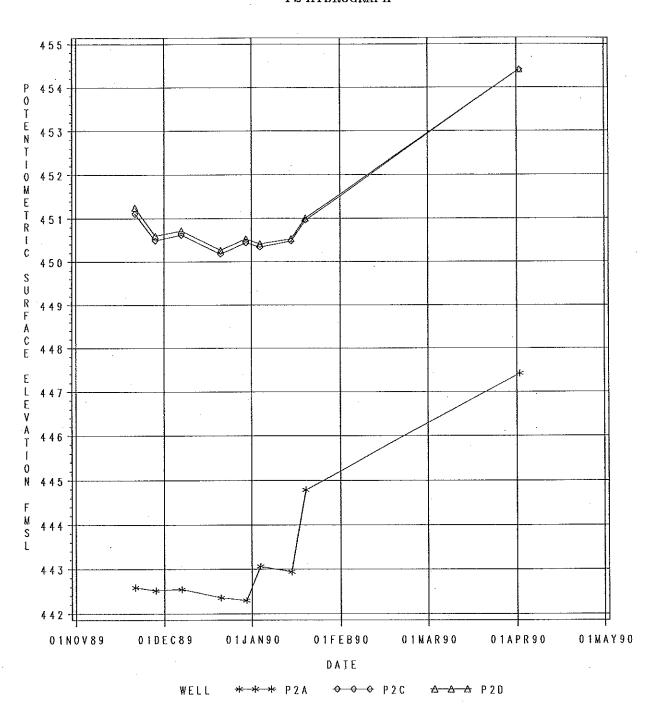


THOMASON LUMBER COMPANY P1 HYDROGRAPH

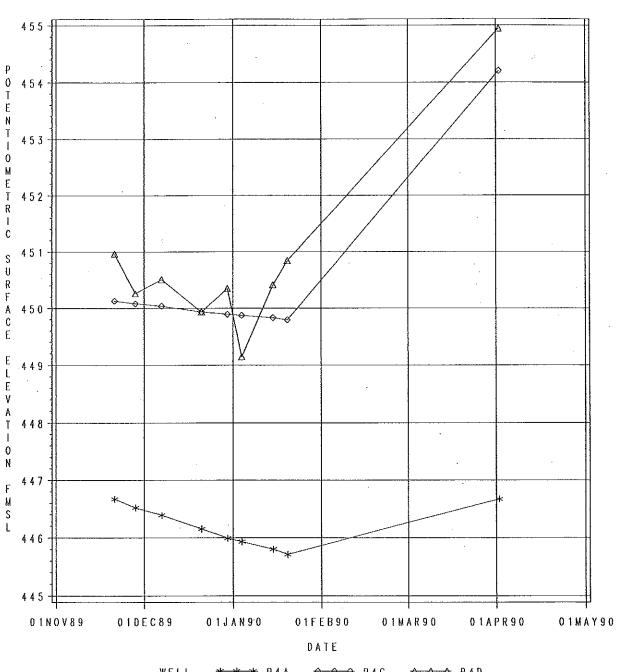


WELL • ◆ ◆ ◆ P1C

THOMASON LUMBER COMPANY P2 HYDROGRAPH

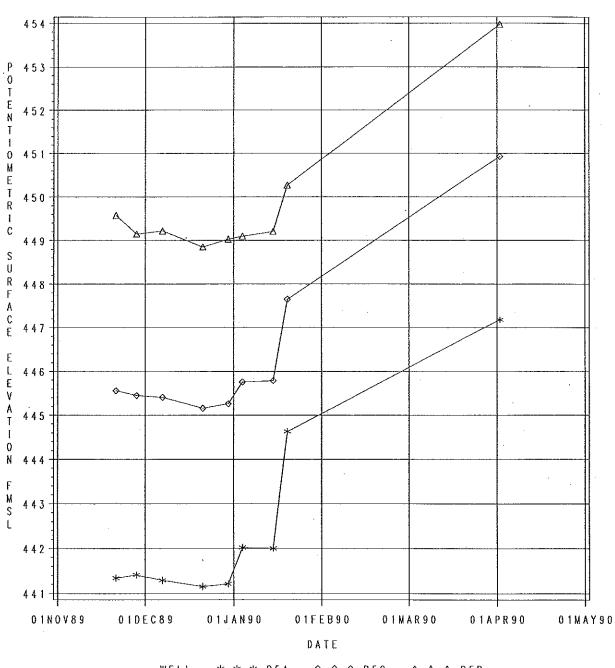


THOMASON LUMBER COMPANY P4 HYDROGRAPH



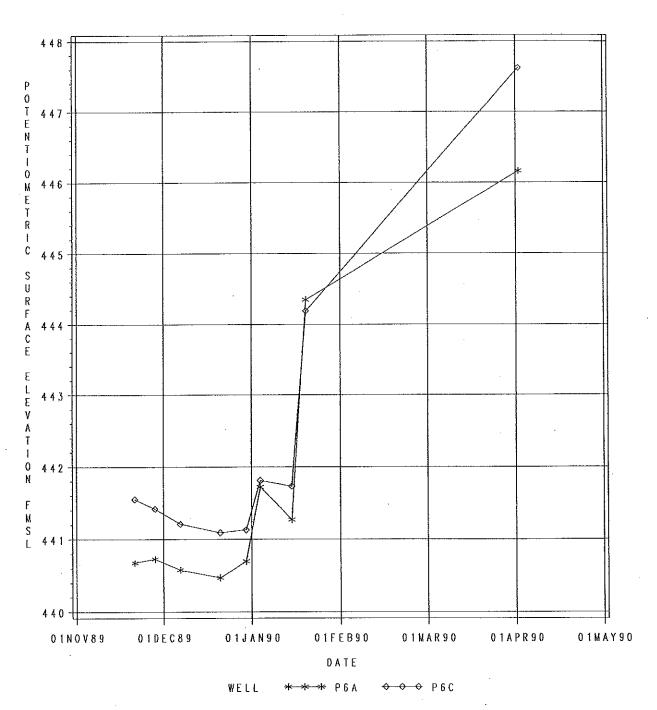
WELL

THOMASON LUMBER COMPANY P5 HYDROGRAPH



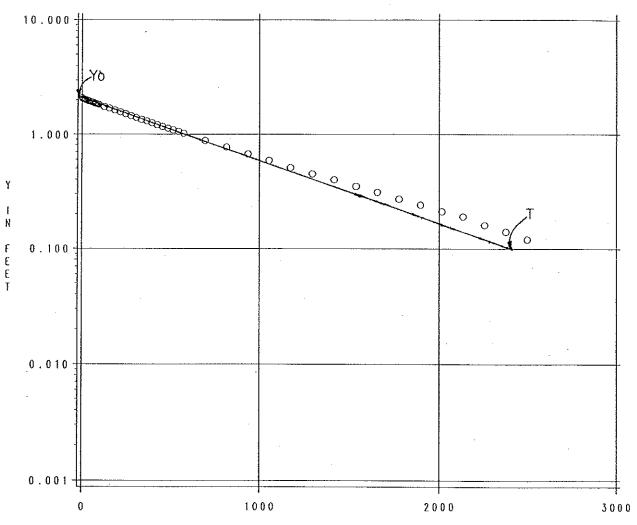
WELL ***** ₽5A ♦ ♦ ♦ ₽50 AAA P5D

THOMASON LUMBER COMPANY P6 HYDROGRAPH



APPENDIX D SLUG TEST CURVES

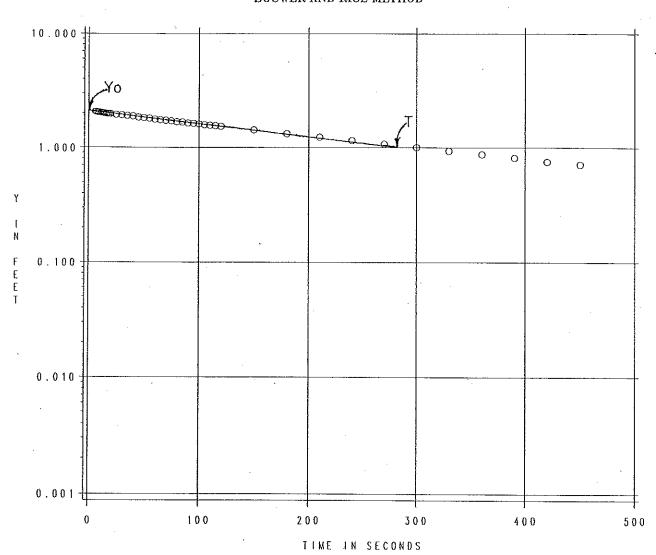
SLUG TEST DATA: P2AB BOUWER AND RICE METHOD



TIME IN SECONDS

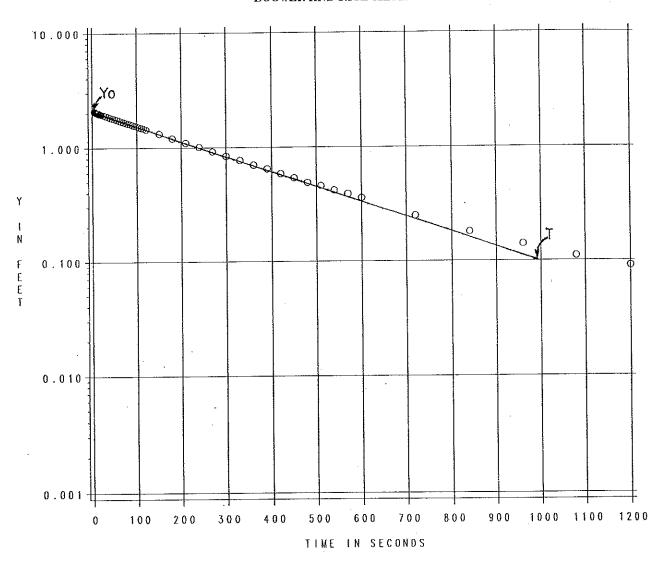
PARAMET	ERS:
Yo	2.09
Ţ	2410
Ln(Re/Rw)	3.04
L	4.00
Rc	0.167
R w	0.333
C	1.3
K (ft/sec)	1.34E-5

SLUG TEST DATA: P2CB BOUWER AND RICE METHOD



PARAMETERS:
Yo 2.07
T 283
Ln(Re/Rw) 1.81
L 4.00
Rc 0.167
A 2
B . 0.3
K (ft/sec) 1.62E-5

SLUG TEST DATA: P2DD BOUWER AND RICE METHOD



```
PARAMETERS:
Yo 2.08
T 993
Ln(Re/Rw) 1.65
L 4.00
Rc 0.167
A 2
B 0.3
K (fl/sec) 1.75E-5
```

CALCULATIONS

For slug test P2AB,

ln(Re/rw) = 1 / [(1.1 / (ln(48.41/0.333))) + (1.3 / (4.0/0.333))]= 3.04

 $K = (0.167^2*3.04)/(2*4.0)*(1/2410)*ln(2.09/0.1) = 1.34E-5$ ft/sec or K=4.07E-4 cm/sec

For slug test P2CB,

ln(Re/rw) = 1 / [(1.1 / (ln(19.65/0.333))) + ((2+0.3*ln((54.00-19.65)/0.333))) / (4.0/0.333))] = 1.81

 $K = (0.167^2*1.81)/(2*4.0)*(1/283)*ln(2.07/1.0) = 1.62E-5$ ft/sec or K=4.95E-4 cm/sec.

For slug test P2DD,

ln(Re/rw) = 1 / [(1.1 / (ln(10.40/0.333))) + ((2+0.3*ln((54.00-10.40)/0.333))) / (4.0/0.333))] = 1.65

 $K = (0.167^2*1.65)/(2*4.0)*(1/993)*ln(2.08/0.1) = 1.75E-5$ ft/sec or K=5.34E-4 cm/sec.

APPENDIX E GROUND-WATER ANALYSES

APR 18 1990

AMERICAN INTERPLEX
CORPORATION
LABORATORIES

8600 Kanis Road Little Rock, Arkansas 72204 (501) 224-5060

Thomason Lumber and Timber Company (C-537)

April 17, 1990

Post Office Drawer 278 Broken Bow, OK 74738

ATTN: Mr. Earl Hayes

Control No. 25614

Description of Sample: Eleven (11) water

Eleven (11) water samples collected by B & F Engineering

personnel and received on 4/4/90

Results:

Sample Identification	PCP mg/l	Acenaphthylene mg/l	Fluoranthene mg/1	Napthalene <u>mg/l</u>
900403-1A, 4/3/90, 1430	<0.001	<0.01	<0.01	<0.01
900403-1A-1, 4/3/90, 1430	<0.001	<0.01	<0.01	<0.01
900403-2A, 4/3/90, 1500	<0.001	<0.01	<0.01	<0.01
900403-2C, 4/3/90, 1520	0.0042	<0.01	<0.01	<0.01
900403-2D, 4/3/90, 1540	<0.001	<0.01	<0.01	<0.01
900403-2D-1, 4/3/90, 1540	<0.001	<0.01	<0.01	<0.01
900403-4A, 4/3/90, 1610	<0.001	<0.01	<0.01	<0.01
900403-4C, 4/3/90, 1630	0.0034	<0.01	<0.01	<0.01
900403-6A, 4/3/90, 1700	<0.001	<0.01	<0.01	<0.01
900403-6C, 4/3/90, 1710	0.13	<0.01	<0.01	<0.01
900403-5A, 4/3/90, 1645	<0.001	<0.01	<0.01	<0.01

Method: EPA 8040, 8100

Remarks: Chain of custody enclosed.

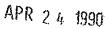
cc: Mr. Peter Bayley

B & F Engineering, Inc.

AMERICAN INTERPLEX CORPORATION

LM/bp

Lydia Morton Laboratory Director





8600 Kanis Road Little Rock, Arkansas 72204 (501) 224-5060

Thomason Lumber & Timber Company (C-537)

April 23, 1990

Post Office Drawer 278 Broken Bow, OK 74738

ATTN: Mr. Earl Hayes

Control No. 25628

Description of Sample: Ten (10) water samples collected by B & F Engineering

received on 4/5/90

Results:

Sample Identification	PCP mg/1	Acenaphthylene mg/l	Fluoranthene $\frac{mg/l}{}$	Napthalene mg/l
900403-6C-1, 4/3/90, 1720	<0.001	<0.01	<0.01	<0.01
900403-9C-2, 4/3/90, 1725	<0.001	<0.01	<0.01	<0.01
900403-6C-3, 4/3/90, 1727	<0.001	<0.01	<0.01	<0.01
900403-6C-4, 4/3/90, 1730	<0.001	<0.01	<0.01	<0.01
900404-1C, 4/4/90, 1140	<0.001	<0.01	<0.01	<0.01
900404-1D, 4/4/90, 1120	<0.001	<0.01	<0.01	<0.01
.900404-4D, 4/4/90, 1050	<0.001	<0.01	<0.01	<0.01
900404-5C, 4/4/90, 1000	<0.001	<0.01	<0.01	<0.01
900404-5D, 4/4/90, 1020	<0.001	<0.01	<0.01	<0.01
900404-FH, 4/4/90, 1130	<0.001	<0.01	<0.01	<0.01

Method: EPA 8040, 8100

Remarks: Chain of custody enclosed.

cc: Mr. Peter Bayley

B & F Engineering, Inc.

AMERICAN INTERPLEX CORPORATION

LM/lb

Laboratory Director

APPENDIX F QUALITY ASSURANCE FORMS

B&F engineering, inc.

CHAIN OF CUSTODY RECORD

928 AIRPORT ROAD ^{*} HOT SPRINGS, AR 71913 (501) 767—2366

34- I-AA IAF ID-19

PROJECT NO.	PROJECT	N FO	NAME		T.		PARAMETERS
7-2397-0101	Thomason Lumber	T uo	umbe	er & Timber Company		9	
SAMPLERS: (Signature Salla & C.)	The w			LABORATORY American Interplex	VO. OF TAINERS	palene.	
	DATE TIME		COMP.	STATION LOCATION	d	tonTa	
-\$ 81 - 20700b	4-3-90 1430	 	>-	MONITOR WILLS	7	7	
	2 1830	0	<u> </u>	11	\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	7	
		Ŏ	X	// //	7	7	
, ,		20	X	11	\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	7	
2 6	1	Ĉ.	×	11	<u> </u>	7	
-	-	40	X	//	\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	7	
	1	0(3)	~	, ,	\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	2	
40	\vdash	200	<u> </u>	<i>)</i> //	\ <u></u>	2	
1		000	>	7	7	7 7	
Rélinguished by (Signature) Date,	ignature,	là		Time Received by (Signature	Relinguished	by:(Signoture)	Date/Time Received by: (Signature)
5.11 / mis	ę	4		1740 X DOTA White	ZZZX	White	790 10815 X
(Printed)		-		(Printed)	(Printed)	\	O
BILL HARRIS	R15			Scott WHITE	50077	WHITE	KEN SYURLIN
1 X V	ignature.	1 1/4	ite/	Date/Time Received for Laboratory	y Date/Time	Remarks L.A.B.: PL	PLEASE REPORT AS
(Printed)				(Printed)		"THOMASON	ON LUMBER AND TIMBER Co.
KEN SPURLIN	N,			Pope Chroal			
			į				



B&F engineering, inc.

CHAIN OF CUSTODY RECORD

928 AIRPORT ROAD HOT SPRINGS, AR 71913 (501) 767—2366

						5		2	,))	ıl	;				(100)	101	2002	\int
	PROJECT NO.	PROJECT NAME	Ž H	ME								PAR	PARAMETERS	ERS				ļ	
	7-2397-0101	Thomaso	n Lu	mbe	7 & 7	Thomason Lumber & Timber Company	npany			;	10	-	_	-		**	, .	-	
	SAMPLERS: (Signature)	1/23	(2) X (2)	(3 ×		LABORATORY American Interplex	berplex		-	anthen.	rajene			*******	*****	and the second s			-
1.5		DATE TIME	COMP	BARD	V /	STATION	STATION LOCATION) _d	Fluor	Napth								
	700403-60 4-3-00 1710	4-3-90 171	0	×	Mor	MONITOR WEL	7 7:		7										
	900 403 -SA	4-3-90 1645	ام	Ж.	mo	MONITORU	שפננ		7	7	7								
		•											_					-	
									 										
			-	-															· · ·
			-	-															
			-	ļ															
			-		ļ			-									<u></u>		
									-										
	Relinguished by (Signature) Date/Time	r. (Signature)	Dat	6		Received	by. (Signature)		Relinguished	ł	by:(Signature)	yre) [Date/	Time	Received	ved by:	١ ١	(Signature)	(e)
	Bill Horrin	ζ.	4-3	8	43-40 1748	X	White	1	X	K	There		06/6/	0813			1)
	(Printed)					(Printed)	1		(Printed)	1	L'IMIT				VE STATE	7091 7091	000	SPURCIN	
	BILL HARRIS	eR15				SCU17	WAITE		000	1		U							
	Relinguished by (Signature) Date/Time	r.(Signoture)	Date/Time	- N	·	Received by: Signa	Received for Laboratory by (Signature)		1/4/1/10 11:30		Kemarks								
•	(Printed)					(Printed)	•							٠				i	•
	KEN SPURLIN	TIM				1/2 of 1	there the			_									

SE952 #NJ

928 AIRPORT ROAD HOT SPRINGS, AR 71913 (501) 767—2366 PARAMETERS 7 ١ 6 CHAIN OF CUSTODY RECORD / ' 2 7 1 7 Y 2 $d\mathfrak{I}_d$ 2 CONTAINERS 7 2 STATION LOCATION American Interplex & Timber Company MONITOR WEL LABORATORY ~ 4 * 1 * 7 1 B&F engineering, inc. Thomason Lumber S'PXA 8AA9 × × ⋋ PROJECT NAME > \succ يد, ፞፞፞፞፞፞፞፞ پلا >< СОМР 4.4.90 1020 TIME 4-4-90 11050 1727 1730 4-4-90 1000 4-4-90 1140 4.4.90 112.0 これの 1725 SAMPLERS: (Signoture) DATE 4-3-90 ě. 51.5 4.3 900403.6c.4 900403-66-3 Bill Harris 900403-66-7-2397-0101 PROJECT NO. FIELD SAMPLE NUMBER 300404-1C 900404-40 900403-60 900404.1D 400 404 SC

(Signature)

(Printed)

Remarks

Date/Time

Relinguished by (Signature) Date/Time Received for Laboratory

Herman

(Printed)

7.4.7 Time

4.5

Harris BAK

(Printed)

BILL HARRIS

Relinguished by:(Signature)| Date/

400404-5D

(Printed)

Relinguished by:(Signature)| Date/Time | Received by:

Received by: (Signature)

41-574 15:00

COPY COPY

B&F engineering, inc.

CHAIN OF CUSTODY RECORD

928 AIRPORT ROAU HOT SPRINGS, AR 71913 (501) 767-2366

PROJECT NO.	PROJECT NAME		"/ PARAMETERS	
7-2397-0101	Thomason Lumber &	& Timber Company	Эu	
SAMPLERS: (Signatyre) XX	SA THE	ALE American Interplex	hthyle	
FIELD SAMPLE NUMBER	DATE TIME VAP COMP. CR	STATION LOCATION	Vc enap	
900404-FH	4-4-90 1130 X BRO	BROKEN BOW FIREHOUSE	<i>' ' ' ' ' ' ' ' ' '</i>	
	JFL	-		
	·			
		And the state of t		
		The state of the s		
Relinguished by:	(Signature) Date/Time	by: (Signature)	Relinguished by (Signature) Date/Time	e Received by (Signature)
Bill Harris	3 4-5 7:43 Wern	+ Herman Tradelu	Herman Zedden 4,-5 10:00	!
(Printed) B+F		(Printed)	(Printed)	(Printed)
BucHARRIS		Herman Tadder	Harma Todder	
Relinguished by:(Signature)	:(Signature) Date/Time	Received for Laboratory by (Signature)	Date/Time Remarks	
(Printed)	·-	(Printed)		

CONDUCTIVITY CALIBRATION

t			700114111	THE DEADING	ANALYST
	DATE	SAMPLE ID	TEMPERATURE	METER READING	I
W	4-3-90	STAND. 6680 umhos	16,2°C	4 84 0 vmhos 4810 vmhos 5900	BH FOC
nl.	4-3-90	lı	21,5°C	5900	POC.
n	4-4-90		ile l C	4540	BEH
M	4-4-90	11	16.1°C	5/00	BEH
		-			
	;				
			·		
				•	
			,		
		<u> </u>			
1		ř;			
1					
					
		·			
					
				·	
			<u> </u>		_
			·	`	
,			-		
,					
•					
			1	_	

B&F

ENGINEERING, INC.

928 AIRPORT ROAD, HOT SPRINGS, ARKANSAS 71913 (501) 767-2366

PH METER CALIBRATION RECORD

DATE	SAMPLE ID	METER READING	FINAL CONC./UNIT	ANALYST
m 4-3-90	pH 7 buffer pH 4 buffer	7.0		BEH BEH FOL
w 4-3-90 w 4-3-90	pH 7 buffer	7. \ 4. D		FOL
n 4-4-90	pt 7 byfor	4.0		BEH BEH
n 4-4-90 m 4-4-90	pt 7 Buffer	7.1		BEH BEH
	1			
	-			
			·	
	3,			
	·			
			•	
		'		
				<u> </u>
				· ·

DECONTAMINATION RECORD

Type Equipment	Wash Person	<u>Date</u>	Time	Decon Procedure/Remarks ALCONOX + TAPWATEL SCRUB,
P-20 BAILER	LRB	4/5/90	1039	HEXANE RINSE, OI. WATER
P-50 "	URB	4/5/90	1053	۸,
P-50 "	LRB_	4/5/90	1107	
P-60 "	LRB.	4/5/90	13.09	
P-6A !!	LRB	4/5	13.21	<u> </u>
P-16 " "	LRB	4/5	1340	· · · · · · · · · · · · · · · · · · ·
P-ZA 3"BAILER	<u>LRB</u>	4/5	1405	
P-2C 3"BAILER	LRB	4/5	1425	
RZD 3"BAILER	LRB	4/5	1445	<u>(1</u>
				-
• • • • • • • • • • • • • • • • • • • •				
		.		
		_		
		_		
		_		
		_		
		_		
		_	-	
		_		
		_	.	

DECONTAMINATION RECORD

Type Equipment	Wash Person	<u>Date</u>	Time	Decon Procedure/Remarks
PIA BAILER	BEH	3-29-90	0720	ALLO-NOY + TAPWATER SCRUB, HEXANE RINSE + DI WATER
P-10 "	BEH	3-29-90		<i>#</i>
P-10 "	BEH	3-29-90	0815	n n
P-4A "		{		· · · · · · · · · · · · · · · · · · ·
	BEH		0845	
P-4c "	BEH		0937	п
P-40 "	BEH	3-29.90	1000	
F-5C "	ВЕН	3.29.90	1025	
P-5 D	<u> </u>	3.29	1045	4
P-5A "	BEH	3-34	1230	<i>A</i>
P-6A "	BEH	3.29	1240	<i>H</i>
P-6c "	BEH	3-29	1310	
P-2A 3" BALLER	BEH	3.29	1500	H
P-ZC 3"BALLER	BEH	3.29	1531	. 4
P-ZD 3 BAILER	ВЕН	3-29	1600	+1
PZA BAILER	BEH	3-30	0900	"
P-ZC BAILER	BEH	3.30	0925	11
P-ZD BAILER	BEH	3.30	0950	<i>''</i>
P-5A BAILER	LRB	4-5	0750	· · · · · · · · · · · · · · · · · · ·
P-44 BAILER	LRB	4-5	0815	11
P-2C 11	LRB	4-5	0840	11
9-4c "	UB	4-5	0900	10
		4-5	0914	
	LRB			
P-4.D	LRB_	4-5	0929	
· P-ZA ''	LRB	4-5	0944	
P-1D "	LRB	4-5	0958	

MONITORING WELL NO. 1A DATE AND TIME OF SAMPLING: 4-3, 1990 1430 HOURS SAMPLE COLLECTED BY: PNB, BEH, LRB OF B & F ENGINEERING, INC. WEATHER: SUNNY
WEATHER: SUNNY SAMPLING LOCATION ILC MIGNITUR WELL SAMPLING PERIOD: QUARTER 19
A. MONITOR WELL CONDITION:
No Repairs Required (Describe):
B. WELL EVACUATION: 1. Water Depth 40,94 Ft. below datum Measured With: X Water Level Indicator Other (Describe:
2. Purge Method Pump, (Type:)
<pre>X Bailer (Size: 3 /) 3. Volume Removed: (Refer to Bailing Tables)</pre>
Gallons, if pumped 4. X Condition of Water during Evacuation Oil Droplets Suspended Sediment Oil Phases Clear Muddy Chemical Odor Other
5. $\underline{\chi}$ All equipment decontaminated in accordance with current sampling and analysis plan.

	С.	SAMPLE EXTRACTION:			
	1.	Type Sample: X Gr	abCo	mposite	
	2.	Method of Extraction: Tef1	on Bailer		
}	3	√ Condition of Water Duri	ng Extraction		
1	-	Oil Droplets		l Sediment	
		0il Phases	$\frac{\overline{\chi}}{\chi}$ Clear		
		Muddy	Chemical	0dor	
		Other			
		- 10 - 10 - 10 - 10 - 10 - 10 - 10 - 10			
	D.	ON-SITE MEASUREMENTS			, , , , , , , , , , , , , , , , , , , ,
		or or a reconstruction	First Bailer		Last Bailer
		Temperature 19,6	19.6		19.0
		pH $\frac{77.6}{4.8}$	4.6 4.6	4.5_	5.1 5.Z
		· · · · · · · · · · · · · · · · · · ·		49	51 54
	F	Conductivity 49	89 50		31 27
	Ε.	SAMPLE CONTAINERS		Dayamotay(c)	Preservation
		Sample Number Conta	iner	Parameter(s)	
		•) ²		
					By Lab
		900403 40 ml	glass vial		
		900403-1A 1 lit	er amber glass _{FLO}	PCP, ACENAPTHYLENE	- X
~ n	(7) AND	0 × 2 6 14 1 4 1 7 7 7		//	χ
<i>a L ()</i>	BLANK	250 m	nl plastic		
-		*** * * * * * * * * * * * * * * * * *	nl plastic		
,			gal plastic		
			(Describe)		
	F.	ON-SITE SAMPLE FILTRATION	(0000: 100)	• ,	
•	• •		n-Site (Describe l	Method & Contain	ers)
			, 5100 (2000) 100 (.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
	G	CONTAINER HANDLING:			
	u.	X Container Sides	l aheled		,
		X Containers Place			
				ompleted	
	61	Chain-of-Custody	y documentation c	ompreced.	ont compling and
	п.	All Équipment Decontami	naceu in accorda	ance with tuile	are sompring and
		analysis plan.			
	. 1.	OTHER COMMENTS: No		· · · · · · · · · · · · · · · · · · ·	
					<u> </u>
					1
					
			<u> </u>	DATE -	' 2. O x
		SAMPLER'S SIGNATURE	el Harris	DATE: <u>4</u>	-5-70
	Mon	nitor Well No. / A			

MONITORING WELL NO. 16
DATE AND TIME OF SAMPLING: $4-4-90$, 19 1140 HOURS
SAMPLE COLLECTED BY: REH, LRB, PWB FOC OF B & F ENGINEERING, INC.
WEATHER: SUNNY + HOT
WEATHER: SUNNY + HOT SAMPLING LOCATION MOWO SAMPLING PERIOD: QUARTER 19
A. MONITOR WELL CONDITION:
Well Number ((15) - IS NOT) Apparent
Steel Casing Condition is: OK
Inner PVC Casing Condition is: ♂₭
Depth Measurement Datum (IS - IS NOT) Apparent
Datum for Depth Measurements: χ High point on top of PVC
casing; Other
Total Depth of Well: Actual 69.6/ (ft.): Installed(ft)
X Deficiencies Corrected by Sample Collector
X Repairs Required (Describe): NONE
B. WELL EVACUATION:
1. Water Depth
Other (Describe:
other (bescribe.
2. Purge Method
Pump, (Type:)
3. Volume Removed: (Refer to Bailing Tables)
Full Bailers: Required 6 Actual 20
Well Purged Dry
Gallons, if pumped
4. $\underline{\chi}$ Condition of Water during Evacuation
Oil DropletsSuspended Sediment
Oil PhasesClear
Muddy Chemical Odor
other county ofthe bailed down to screen
· · · · · · · · · · · · · · · · · · ·
5. All equipment decontaminated in accordance with current sampling and

1.	Type Sample: \(\sqrt{\text{Grab}} \) Grab \(\text{Composite} \)
2.	Method of Extraction: Teflon Bailer
	★ Condition of Water During Extraction
•	Oil Droplets X Suspended Sediment
	Oil Phases 🕏 Clear
	Muddy Chemical Odor
	Y Other will has recovered to 2.0 of Water
•	The state of the s
	•
D.	ON-SITE MEASUREMENTS
	, First Bailer Last Bailer
	Temperature 18.5 18.9 18
	pH $\frac{4.9}{4.9}$ $\frac{5.1}{4.9}$ $\frac{4.9}{5.0}$ $\frac{5.0}{5.0}$ $\frac{5.0}{4.9}$ $\frac{5.0}{4.9}$
	Conductivity 41 44 42 44 39 40
Ε.	SAMPLE CONTAINERS
	Sample Number Container Parameter(s) Preservation
	None Added
	By Lab
	40 ml aloce winl
	40 ml glass vial 900404-/C 1 liter amber glass FLOR AND HENE PAPHTHALENE
	1 gal amber glass
	250 ml plastic
	250 ml plastic 1/2 gal plastic
	Other (Describe)
С	ON-SITE SAMPLE FILTRATION
F.	
	None: On-Site (Describe Method & Containers)
G.	CONTAINER HANDLING:
u.	X Container Sides Labeled
	X Containers Placed in Ice Chest
	Chain-of-Custody documentation completed.
н	\times All Equipment Decontaminated in accordance with current sampling and
	analysis plan.
I.	· · ·
Τ.	OTHER COMMENTS: No
٦,	SAMPLER'S SIGNATURE Bill Harris DATE: 4-4-90
	nitor Well No. 1c

MONITORING WELL NO. 1 5 D	
DATE AND TIME OF SAMPLING: 4-4-90 , 1	19 1/20 HOURS
SAMPLE COLLECTED BY: BEH, PWB, FOCIRB	OF B & F ENGINEERING, INC.
WEATHER: Summer + Hat	
WEATHER: Surray + Hat SAMPLING LOCATION Mowo SAMPLING PERI	IOD: QUARTER 19
A. MONITOR WELL CONDITION:	
X LockedUnlocked	•
Well Number (ÎŜ) - IS NOT) Apparent	
Steel Casing Condition is:	
Inner PVC Casing Condition is: OK	
Depth Measurement Datum ((ÎS)- IS NOT) Ap	oparent
Datum for Depth Measurements: X	High point on top of PVC
casing;Other	
Total Depth of Well: Actual 58,30 (ft	t.): Installed(ft)
$\underline{\chi}$ Deficiencies Corrected by Sample Collect	
_χ Repairs Required (Describe): νονε	
,	
1	
B. WELL EVACUATION:	
1. Water Depth 38.57 Ft. below date	um
Measured With: χ Water Level India	cator
Other (Describe:	
2. Purge Method	,
Pump, (Type:)	
3. Volume Removed: (Refer to Bailing Tables)	
	Actual 37
Well Purged DryGallons, if pumped	
4. χ Condition of Water during Evacuation	
Oil Droplets Suspended S	Sadimant
$\begin{array}{ccc} & & & & & & & & & \\ & & & & & & & & \\ & & & & & & & \\ & & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & \\ & & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ \\ & \\ & \\ \\ & \\ & \\ \\ & \\ \\ & \\ \\ & \\ \\ & \\ \\ & \\ \\ & \\ \\ & \\ \\ & \\ \\ \\ & \\ \\ \\ \\ & \\$	Sea men c
Muddy Chemical Oc	dor
Other	
5. X All equipment decontaminated in accordance	ce with current campling and
analysis nlan	

С.	SAMPLE EXTRACTION: Type Sample: X Grab Composite
1.	Type Sample: X Grab Composite Method of Extraction: Teflon Bailer
2.	X Condition of Water During Extraction
3	$\frac{\lambda}{\text{Oil Droplets}} \qquad \frac{\chi}{\text{Suspended Sediment}}$
	Oil Phases Sclear
	Other
D.	ON-SITE MEASUREMENTS
	First Bailer Last Bailer
	Temperature 19,0
	pH 4.3 4.8 4.9 4.6 5.0 4.7
	Conductivity 42 44 44 42 51 46
Ε.	SAMPLE CONTAINERS
	Sample Number Container Parameter(s) Preservation
	None Added
	By Lab
	40 Jalan wiol
	40 ml glass vial
	40 mt glass viat 900404-1D 1 liter amber glass PCP, ACENAPHTHYLE NE 1 gal amber glass
	1 gat aliber grass
	250 ml plastic
	250 ml plastic
	1/2 gal plastic
	Other (Describe)
F.	
	None: On-Site (Describe Method & Containers)
_	CONTRACTOR MANDY AND
G.	
	X Container Sides Labeled
	Containers Placed in Ice Chest Chain-of-Custody documentation completed.
н.	XAll Equipment Decontaminated in accordance with current sampling and
_	analysis plan.
Ι.	OTHER COMMENTS: No
	CAMPLEDIC CICHATURE R'ALVI DATE: 1-1-90
J.	SAMPLER'S SIGNATURE Bill Harris DATE: 4-4-90
Mo	onitor Well No.
	$m{m{m{m{m{m{m{m{m{m{m{m{m{$

MONITORING WELL NO. 2A
DATE AND TIME OF SAMPLING: $4-3$, 1990 /500 HOURS
SAMPLE COLLECTED BY: PWB, BEH, LRB OF B & F ENGINEERING, INC.
WEATHER: SUNNY + HOT
SAMPLING LOCATION TLC MON. WELL SAMPLING PERIOD: QUARTER 19
A. MONITOR WELL CONDITION:
X Locked Unlocked
Well Number ((IS) - IS NOT) Apparent
Steel Casing Condition is: Good
Inner PVC Casing Condition is: Goop
Depth Measurement Datum (IS - IS NOT) Apparent
Datum for Depth Measurements: X High point on top of PVC
casing;Other
Total Depth of Well: Actual 99.35 (ft.): Installed(ft)
None Deficiencies Corrected by Sample Collector
<u>Νυπ</u> Repairs Required (Describe):
B. WELL EVACUATION:
1. Water Depth 48,37 Ft. below datum
Measured With: X Water Level Indicator
Other (Describe:
2. Purge Method
Pump, (Type:
X Bailer (Size: $3'' \times 3'$)
3. Volume Removed: (Refer to Bailing Tables)
XFull Bailers: Required
Well Purged Dry
Gallons, if pumped
4. X Condition of Water during Evacuation
Oil Droplets Suspended Sediment
Oil Phases X Clear
Muddy Chemical Odor
0ther
5. χ All equipment decontaminated in accordance with current sampling and
analysis plan.

1.	Type Sample:	X Grab	Composite	
2.	Method of Extraction			
		ter During Extraction	า	
~	0il Droplet	-	ended Sediment	
	Oil Phases	 ,		•
	Muddy	Chem:	ical Odor	
	Other		,00,1	
	Utile!			
D.	ON-SITE MEASUREMENT	S		, <u>, , , , , , , , , , , , , , , , , , </u>
٠.		≚ First Bai	ler	Last Bailer
	Temperature C		9.6	19,2
	pH /	5,9 5	18 5.8	5.7 5.0
	•	03 105 10		99 100
Ε.	SAMPLE CONTAINERS	05 103 10	10.3	
E.		Container	Parameter(s)	Preservation
	Sample Number	Concamer	Tar direct (5)	None Added
		•		By Lab
				by Lub
	. ·	40 ml glass vial		
	900403-ZA	1 liter amber gla	SS FLUOKANTHENE, NAPHTHAL	E ENE
		1 gal amber glass		
	<i>t</i> ;	250 ml plastic		
		250 ml plastic		
	 	1/2 gal plastic		
	**************************************	Other (Describe)		
F.	ON-SITE SAMPLE FILT		4	
•	X None:		ibe Method & Contai	ners)
				<u> </u>
G.	CONTAINER HANDLING:			
~ •		er Sides Labeled		
	. <u></u>	ers Placed in Ice Che	est	
		-Custody documentati		
ш	✓ Mil Equipment D	econtaminated in ac	cordance with curv	ent campling and
п.		scontainmated in ac	COI Gallee Wich Carl	che sumpting and
	analysis plan.	1 .		
I.	OTHER COMMENTS:	, 0	,	

		4: - 1	0.8TF	1736
J.		Bill Airis	DATE: <u>4</u>	-3-70
Mo	nitor Well No. ⊅A			·

MONITORING WELL NO. 2c
DATE AND TIME OF SAMPLING: $4-3-90$, 19 /5ZO HOURS
SAMPLE COLLECTED BY: BEH PWB, LRR OF B & F ENGINEERING, INC.
WEATHER: SUNNY + HOT
SAMPLING LOCATION MONITOR WELL SAMPLING PERIOD: QUARTER 19
A. MONITOR WELL CONDITION:
X Locked Unlocked
Well Number (IS - IS NOT) Apparent
Steel Casing Condition is: OK
Inner PVC Casing Condition is: OK
Depth Measurement Datum (IS - IS NOT) Apparent
Datum for Depth Measurements: χ High point on top of PVC
casing;Other
Total Depth of Well: Actual <u>64.58</u> (ft.): Installed(ft)
Deficiencies Corrected by Sample Collector
ుం Repairs Required (Describe):
B. WELL EXACUATION:
1. Water Depth 41.48 Ft. below datum
Measured With: X Water Level Indicator
Other (Describe:
2. Purge Method
Pump, (Type:)
3. Volume Removed: (Refer to Bailing Tables)
χ Full Bailers: Required 39 Actual 39
Well Purged Dry
Gallons, if pumped
4. X Condition of Water during Evacuation
Oil Droplets Suspended Sediment \(\sum_{\text{au}} \)
Oil Phases Clear
Muddy Chemical Odor
Other
5. X All equipment decontaminated in accordance with current sampling and
analysis plan

С.	SAMPLE EXTRACTION:	
1.	Type Sample: X Grab Composite	
2.	Method of Extraction: Teflon Bailer	
3	\underline{X} Condition of Water During Extraction	
	Oil Droplets Suspended Sediment	
	Oil Phases X Clear	
	Muddy Chemical Odor	
	Other	
•	001101	
D.	ON-SITE MEASUREMENTS	
	, First Bailer Last Bailer	
	Temperature 19,6	
	pH 4,Z 3,9 3,9 3,8 4,1 3,9	•
		-
F		-
Ε.	SAMPLE CONTAINERS	
	Sample Number Container Parameter(s) Preservation	
	None Added	-
	<u>By La</u>	ıD
	40 ml glass vial	
	PCPACENAPHTAVLENE	_
	1 liter amber glass FLUOR ANTHENE, NA PHTHALENE	
	250 ml plastic	
	250 ml plastic	
	1/2 gal plastic	
	Other (Describe)	_
F.	ON-SITE SAMPLE FILTRATION	
	None:On-Site (Describe Method & Containers)	
G.	CONTAINER HANDLING:	
	$\underline{\chi}$ Container Sides Labeled	
	\overline{X} Containers Placed in Ice Chest	
	$\overline{\chi}$ Chain-of-Custody documentation completed.	
Н.	\sqrt{All} Equipment Decontaminated in accordance with current sampling an	nc
	analysis plan.	
I.	OTHER COMMENTS: No	
	OTHER COMMENTS: 100	
1	CAMBLED'S SIGNATURE RYAY DATE: 1 2-90	•
J.	SAMPLER'S SIGNATURE Bill Hams DATE: 4-3-90	•

MONITORING WELL NO. 2 D
DATE AND TIME OF SAMPLING: $4-3-90$, 19 $15-40$ HOURS
DATE AND TIME OF SAMPLING: 4-3-90 , 19 15-40 HOURS SAMPLE COLLECTED BY: PUB, BEH, LRB OF B & F ENGINEERING, INC.
WEATHER: SUNNY & HOT
WEATHER: SUNNY & HOT SAMPLING LOCATION MONITOR WELL SAMPLING PERIOD: QUARTER 19
A. MONITOR WELL CONDITION:
∠ Locked Unlocked
Well Number (IS) - IS NOT) Apparent
Steel Casing Condition is: OK
Inner PVC Casing Condition is: OK
Depth Measurement Datum (IS - IS NOT) Apparent
Datum for Depth Measurements: High point on top of PVC
casing; Other
Total Depth of Well: Actual <u>55.38</u> (ft.): Installed(ft)
uord Deficiencies Corrected by Sample Collector
עייש Repairs Required (Describe):
B. WELL EVACUATION:
1. Water Depth
Measured With: Water Level Indicator
Other (Describe:)
2. Purge Method
Pump, (Type:)
3. Volume Removed: (Refer to Bailing Tables)
\times Full Bailers: Required \times Actual \times
Well Purged Dry
Gallons, if pumped
4. X Condition of Water during Evacuation
Oil Droplets Suspended Sediment
Oil Phases Clear
Muddy Chemical Odor
X Other wary whight discolaration
5. χ All equipment decontaminated in accordance with current sampling and
analysis plan.

		SAMPLE EXTRACTION:
		Type Sample: Grab Composite
		Method of Extraction: Teflon Bailer
	3 _	$\underline{\chi}$ Condition of Water During Extraction
/		Oil Droplets Suspended Sediment
		Oil Phases
		Muddy Chemical Odor
		Other
		- OCHCI
		ON CITE MERCHENEUE
	D.	ON-SITE MEASUREMENTS
-		First Bailer Last Bailer
		Temperature 19.7
		pH 5.3 5.2 5.1 5.2 5.1 5.Z
		Conductivity 104 111 113 119 67 74
	E.	SAMPLE CONTAINERS
		Sample Number Container Parameter(s) Preservation
		None Added
		By La
		40 ml glass vial
		900403-ZD 1 liter amber glass PCP ACENAPHTHYLENE 1 liter amber glass PCP ACENAPHTHYLE
a · + z	ىيە	900403-ZD-1 1 amber glass ""
Suplience		700403-ZD-) 1 get amber glass //
1		250 ml plastic
- 1		1/2 gal plastic
		Other (Describe)
	F.	ON-SITE SAMPLE FILTRATION
	Γ.	
-		None: On-Site (Describe Method & Containers)
	_	
	G.	CONTAINER HANDLING:
		$\underline{\chi}$ Container Sides Labeled
•		\overline{X} Containers Placed in Ice Chest
		Chain-of-Custody documentation completed.
	н.	χ All Equipment Decontaminated in accordance with current sampling an
	•	analysis plan.
	Τ.	OTHER COMMENTS: No
•	. • •	
	_	DATE: 17 Pa
		SAMPLER'S SIGNATURE Bill Auris DATE: 4-3-90
	Mon	vitan No. 1 No. 7 D

DUPLICATE OF 2D

•			NG WELL NO. <u>2D- </u> TIME OF SAMPLING:	. 19	HOURS
	ſ	SAMPLE C	COLLECTED BY:	OF B & F	
		WEATHER:			
		SAMPLING	LOCATION	SAMPLING PERIOD:	QUARTER 19
		A. MONI	TOR WELL CONDITION:		
			LockedUn	locked	
		•	Well Number (IS - IS	* * *	
			Steel Casing Condition	n is:	
			Inner PVC Casing Cond	ition is:	
			Depen neason ement bac	am (12 12 HOL) White elec	
				rements: High p	
			casing;Othe	r	
				Actual (ft.): Insta	illed(ft)
			Deficiencies Correcte		
	}		Repairs Required (Des	cribe):	
			•		
	}				
DE_	- [B. WELL	EVACUATION:		
CE		1. Wate	er Depth	Ft. below datum	
HEET	1		measured with:	_ water Level Indicator	
FOR		•	Other (Descr	ibe:)
ターク		2. Purg	ge Method		
		_	Pump, (Type:)	
			Bailer (Size:		
		3. Volu	me Removed: (Refer to	Bailing Tables)	
			Full Bailers: Requi	red Actual	
			Well Purged Dry		
1			Gallons, if pumped		
		4	Condition of Water duri	_	
			Oil Droplets	Suspended Sediment	
1			Oil Phases	Clear	
			Muddy	Chemical Odor	
		·	Other		<u> </u>
1		E	All agricoment describer	nntod do appoident a sell	7.
\		5		nated in accordance with cu	rrent sampling and
}			analysis plan.	•	

С.	SAMPLE EXTRACTION:	
1.	Type Sample: K Grab Composite	
2.	Method of Extraction: Teflon Bailer	
3	$\underline{\hspace{0.1cm} \hspace{0.1cm} \hspace{0.1cm}$	
	Oil Droplets Suspended Sediment	
	Oil PhasesClear	
	Muddy Chemical Odor	
	Other	
-		
٥.	ON-SITE MEASUREMENTS	
	First Railer Last Railer	
	Temperature 19.7	
		•
	<u> </u>	-
_	onidae (1710)	-
Ε.	Sample Number Container Parameter(s) Preservation	
	Sample Hamber Correctines	
	None Added	-
	<u>By La</u>	b
	40 ml glass vial	
	1 liter amber glass	
	2D-) 1 gal amber glass	_
	250 ml plastic	_
	1/2 gal plastic	
	Other (Describe)	
F.	ON-SITE SAMPLE FILTRATION	
	X None:On-Site (Describe Method & Containers)	
G.	CONTAINER HANDLING:	
	✓ Container Sides Labeled	
	$\stackrel{\frown}{\chi}$ Containers Placed in Ice Chest	
	X Chain-of-Custody documentation completed.	
u	X_All Equipment Decontaminated in accordance with current sampling a	กด
п.		
-	analysis plan.	
1.	OTHER COMMENTS: No	
		•
		-
		-
J.	SAMPLER'S SIGNATURE Bill Havis DATE: 4-3-90	-
	onitor Well No. 20-1	

MONITORING WELL NO. 4A
DATE AND TIME OF SAMPLING: $4-3-90$, 19 1610 HOURS SAMPLE COLLECTED BY: BEH , PWB , LKB OF B & F ENGINEERING, INC.
SAMPLE COLLECTED BY: BEH, PWB, LKB OF B & F ENGINEERING, INC.
WEATHER: SUNNY 4 HOT
WEATHER: SUNNY & HOT SAMPLING LOCATION MOWO SAMPLING PERIOD: QUARTER 19
A. MONITOR WELL CONDITION:
<u>X</u> Locked Unlocked
Well Number (15 - IS NOT) Apparent
Steel Casing Condition is: OK
Inner PVC Casing Condition is: OK
Depth Measurement Datum (IS) - IS NOT) Apparent
Datum for Depth Measurements: High point on top of PVC
casing; Other
Total Depth of Well: Actual 102.06 (ft.): Installed(ft)
None Deficiencies Corrected by Sample Collector
ಬ್ಲ್ Repairs Required (Describe):
B. WELL EVACUATION:
1. Water Depth 37,88 Ft. below datum
Measured With: X Water Level Indicator
Other (Describe:
2 Dungo Mothod
2. Purge Method
Pump, (Type:)
3. Volume Removed: (Refer to Bailing Tables)
Y Full Bailers: Required 127 Actual 127
Well Purged Dry
Gallons, if pumped
4. X Condition of Water during Evacuation
Oil Droplets . X Suspended Sediment Slightly discalined
Oil Phases Clear
Muddy Chemical Odor
0ther
5. $\underline{\chi}$ All equipment decontaminated in accordance with current sampling and
analysis plan.

2. Method of Extraction: Teflon Bailer X Condition of Water During Extraction	С.	SAMPLE EXTRACTION:	0	•
3 X Condition of Water During Extraction Oil Droplets	1.	Type Sample: X Grab	_ Composite	•
Oil Droplets Oil Phases Oil Phases Oil Phases Clear Chemical Odor Other D. ON-SITE MEASUREMENTS Temperature PH		· · · · · · · · · · · · · · · · · · ·		
Oil Phases Muddy Chemical Odor Other D. ON-SITE MEASUREMENTS Temperature 19.1	3			
D. ON-SITE MEASUREMENTS Temperature 19.1 First Bailer 18.7 pH 5.8 5.9 5.8 5.7 5.2 5.2 Conductivity 69 70 70 72 69 71 E. SAMPLE CONTAINERS Sample Number Container Parameter(s) Preservation None Added By Lab 40 ml glass vial 900403-4A 1 liter amber glass Programmer ylengthacene 1 gal amber glass 1 gal amber glass 250 ml plastic 250 ml plastic 1/2 gal plastic 1/2 gal plastic 0ther (Describe) F. ON-SITE SAMPLE FILTRATION A None: On-Site (Describe Method & Containers) G. CONTAINER HANDLING: X Container Sides Labeled X Containe				
D. ON-SITE MEASUREMENTS Temperature 19.1 pH 5.8 5.9 5.8 5.7 5.2 5.2 Conductivity 6.9 70 70 72 69 71 E. SAMPLE CONTAINERS Sample Number				
D. ON-SITE MEASUREMENTS Temperature 19.1		Muddy Chemi	cal Odor	
Temperature pH S.8 S.9 S.8 S.7 S.2 S.2 Conductivity G9 70 70 72 G9 71 E. SAMPLE CONTAINERS Sample Number Container Parameter(s) Preservation None Added By Lab 40 ml glass vial 900403-4A 1 liter amber glass 250 ml plastic 250 ml plastic 250 ml plastic 1/2 gal plastic 1/2 gal plastic 1/2 gal plastic 0ther (Describe) F. ON-SITE SAMPLE FILTRATION None: On-Site (Describe Method & Containers) G. CONTAINER HANDLING: X Container Sides Labeled X Container Placed in Ice Chest X Chain-of-Custody documentation completed. H. X All Equipment Decontaminated in accordance with current sampling and analysis plan. I. OTHER COMMENTS: DATE: 4-3-90		Other		·
Temperature 19.1	•		`	
Temperature 19.1				
Temperature pH	D.	· · · · · · · · · · · · · · · · · · ·		
PH S.8 S.9 S.8 S.7 S.Z S.Z Conductivity 49 70 70 72 49 71 E. SAMPLE CONTAINERS Sample Number			<u>er</u>	
Conductivity 69 70 70 72 69 71 E. SAMPLE CONTAINERS Sample Number Container Parameter(s) Preservation None Added By Lab 40 ml glass vial 40 ml glass vial 1 gal amber glass 250 ml plastic 250 ml plastic 1/2 gal plastic 1/2 gal plastic Other (Describe) F. ON-SITE SAMPLE FILTRATION None: On-Site (Describe Method & Containers) G. CONTAINER HANDLING: X Container Sides Labeled X Containers Placed in Ice Chest X Chain-of-Custody documentation completed. H. YAll Equipment Decontaminated in accordance with current sampling and analysis plan. I. OTHER COMMENTS: DATE: 4-3-90				
E. SAMPLE CONTAINERS Sample Number Container Parameter(s) Preservation None Added By Lab 40 ml glass vial 40 ml glass vial 40 ml glass vial PROPREMANDENTYLENE 1 gal amber glass 250 ml plastic 250 ml plastic 1/2 gal plastic 1/2 gal plastic 0ther (Describe) F. ON-SITE SAMPLE FILTRATION None: On-Site (Describe Method & Containers) G. CONTAINER HANDLING: X Containers Placed in Ice Chest X Containers Placed in Ice Chest X Chain-of-Custody documentation completed. H. XAII Equipment Decontaminated in accordance with current sampling and analysis plan. I. OTHER COMMENTS: DATE: 4-3-90				
Sample Number Container Parameter(s) Preservation None Added By Lab 40 ml glass vial 40 ml glas vial 40 ml glass vial 40 ml glass vial 40 ml glass vial 40 ml glass vial 40 ml glas vial 40 ml glass vial 40 ml glas v		Conductivity <u>69 70 70</u>	72	69 71
A0 ml glass vial 40 ml glass vial 41 plane via plane 42 containers plastic 42 containers) 43 containers placed in Ice Chest 44 containers plane 44 containers plane 44 containers plane 45 containers placed in Ice Chest 46 containers placed in Ice Chest 47 containers placed in Ice Chest 48 containers placed in Ice Chest 49 containers placed in Ice Chest 40 ml glass vial 40 ml glass vial 40 ml glass vial 40 ml place via p	E.	SAMPLE CONTAINERS		
40 ml glass vial 40 ml glas vial 40 ml glas vial 40 ml glas vial 40 ml pre proper American portante value valu		Sample Number <u>Container</u>	Parameter(s)	***************************************
40 ml glass vial 900403-4A 1 liter amber glass FLOORMINENE, MRCTHALENE 1 gal amber glass 250 ml plastic 250 ml plastic 1/2 gal plastic Other (Describe) F. ON-SITE SAMPLE FILTRATION None: On-Site (Describe Method & Containers) G. CONTAINER HANDLING: X Container Sides Labeled X Containers Placed in Ice Chest X Chain-of-Custody documentation completed. H. XAII Equipment Decontaminated in accordance with current sampling and analysis plan. I. OTHER COMMENTS: DATE: 4-3-90				
1 liter amber glass FLOW RANDING VALUE 1 1 gal amber glass 250 ml plastic 250 ml plastic 1/2 gal plastic 0ther (Describe) F. ON-SITE SAMPLE FILTRATION None: On-Site (Describe Method & Containers) G. CONTAINER HANDLING: X Container Sides Labeled X Containers Placed in Ice Chest X Chain-of-Custody documentation completed. H. XAII Equipment Decontaminated in accordance with current sampling and analysis plan. I. OTHER COMMENTS: DATE: 4-3-90	٠.			By Lab
1 liter amber glass FLOW RANDING VALUE 1 1 gal amber glass 250 ml plastic 250 ml plastic 1/2 gal plastic 0ther (Describe) F. ON-SITE SAMPLE FILTRATION None: On-Site (Describe Method & Containers) G. CONTAINER HANDLING: X Container Sides Labeled X Containers Placed in Ice Chest X Chain-of-Custody documentation completed. H. XAII Equipment Decontaminated in accordance with current sampling and analysis plan. I. OTHER COMMENTS: DATE: 4-3-90		40] -71	•	
1 gal amber glass 250 ml plastic 250 ml plastic 1/2 gal plastic Other (Describe) F. ON-SITE SAMPLE FILTRATION None: On-Site (Describe Method & Containers) G. CONTAINER HANDLING: X Container Sides Labeled X Containers Placed in Ice Chest X Chain-of-Custody documentation completed. H. XAII Equipment Decontaminated in accordance with current sampling and analysis plan. I. OTHER COMMENTS: DATE: 4-3-90			PCP RCENAPHTH YLEN	ε —
250 ml plastic 250 ml plastic 1/2 gal plastic Other (Describe) F. ON-SITE SAMPLE FILTRATION None: On-Site (Describe Method & Containers) G. CONTAINER HANDLING: X Container Sides Labeled X Containers Placed in Ice Chest X Chain-of-Custody documentation completed. H. XAII Equipment Decontaminated in accordance with current sampling and analysis plan. I. OTHER COMMENTS: DATE: 4-3-90			S FLOO RANTHENE, NHPTH	ALENE V
250 ml plastic 1/2 gal plastic Other (Describe) F. ON-SITE SAMPLE FILTRATION None: On-Site (Describe Method & Containers) G. CONTAINER HANDLING: X Container Sides Labeled X Containers Placed in Ice Chest X Chain-of-Custody documentation completed. H. XAll Equipment Decontaminated in accordance with current sampling and analysis plan. I. OTHER COMMENTS: DATE: 4-3-90				
1/2 gal plastic Other (Describe) F. ON-SITE SAMPLE FILTRATION None: On-Site (Describe Method & Containers) G. CONTAINER HANDLING: X Container Sides Labeled X Containers Placed in Ice Chest X Chain-of-Custody documentation completed. H. X All Equipment Decontaminated in accordance with current sampling and analysis plan. I. OTHER COMMENTS: DATE: 4-3-90		250 mi prascic		·····
Other (Describe) F. ON-SITE SAMPLE FILTRATION None: On-Site (Describe Method & Containers) G. CONTAINER HANDLING: X Container Sides Labeled X Containers Placed in Ice Chest X Chain-of-Custody documentation completed. H. X All Equipment Decontaminated in accordance with current sampling and analysis plan. I. OTHER COMMENTS: DATE: 4-3-90				
F. ON-SITE SAMPLE FILTRATION None: On-Site (Describe Method & Containers) G. CONTAINER HANDLING: X Container Sides Labeled X Containers Placed in Ice Chest X Chain-of-Custody documentation completed. H. XAII Equipment Decontaminated in accordance with current sampling and analysis plan. I. OTHER COMMENTS: DATE: 4-3-90				
G. CONTAINER HANDLING: X Container Sides Labeled X Containers Placed in Ice Chest X Chain-of-Custody documentation completed. H. XAll Equipment Decontaminated in accordance with current sampling and analysis plan. I. OTHER COMMENTS: DATE: 4-3-90	•	The state of the s		
G. CONTAINER HANDLING: X Container Sides Labeled X Containers Placed in Ice Chest X Chain-of-Custody documentation completed. H. X All Equipment Decontaminated in accordance with current sampling and analysis plan. I. OTHER COMMENTS: DATE: 4-3-90	F.			
X Container Sides Labeled X Containers Placed in Ice Chest X Chain-of-Custody documentation completed. H. XAll Equipment Decontaminated in accordance with current sampling and analysis plan. I. OTHER COMMENTS: DATE: 4-3-90		None: On-Site (Descri	ibe Method & Contai	ners)
X Container Sides Labeled X Containers Placed in Ice Chest X Chain-of-Custody documentation completed. H. XAll Equipment Decontaminated in accordance with current sampling and analysis plan. I. OTHER COMMENTS: DATE: 4-3-90				· · · · · · · · · · · · · · · · · · ·
X Containers Placed in Ice Chest	G.	+		
Thain-of-Custody documentation completed. H. XAII Equipment Decontaminated in accordance with current sampling and analysis plan. I. OTHER COMMENTS: DATE: 4-3-90				
H. XAII Equipment Decontaminated in accordance with current sampling and analysis plan. I. OTHER COMMENTS: J. SAMPLER'S SIGNATURE Bill Hamis DATE: 4-3-90				
J. SAMPLER'S SIGNATURE Bill Hamis DATE: 4-3-90		<u>√</u> Chain-of-Custody documentation	on completed.	
J. SAMPLER'S SIGNATURE Bill Hamis DATE: 4-3-90	Н.	XA11 Equipment Decontaminated in acc	cordance with curi	rent sampling and
J. SAMPLER'S SIGNATURE Bill Harris DATE: 4-3-90				•
J. SAMPLER'S SIGNATURE Bill Harris DATE: 4-3-90	I.	OTHER COMMENTS:		
J. SAMPLER'S SIGNATURE Bill Harris DATE: 4-3-90				
				-
	•			
Monitor Well No. 4 A	J.	SAMPLER'S SIGNATURE Bill Harris	DAȚE: <u>4</u>	3-90
	Мо	nitor Well No. 4A		

MONITORING WELL NO. 4 & C
MONITORING WELL NO. 4 C DATE AND TIME OF SAMPLING: 4-3-90 , 19 1630 HOURS
SAMPLE CULLECTED BY: BEH, PUB, LRB OF B&F ENGINEERING, INC.
WEATHER: SUNNY + HOT
WEATHER: SUNNY + HOT SAMPLING LOCATION MOWO SAMPLING PERIOD: QUARTER 19
A. MONITOR WELL CONDITION:
7 Locked Unlocked
Well Number (IS)- IS NOT) Apparent
Steel Casing Condition is: OK
Inner PVC Casing Condition is: ○ K
Depth Measurement Datum (IS) - IS NOT) Apparent
Datum for Depth Measurements: High point on top of PVC
casing; Other
Total Depth of Well: Actual 63.38 (ft.): Installed (ft)
▼ Deficiencies Corrected by Sample Collector
X Repairs Required (Describe): None
B. WELL EVACUATION:
1. Water Depth 30.35 Ft. below datum
Measured With: Water Level Indicator
Other (Describe:
2. Purge Method
Pump, (Type:)
<pre></pre>
3. Volume Removed: (Refer to Bailing Tables)
Full Bailers: Required 32 Actual 32
Well Purged Dry
Gallons, if pumped
4. X Condition of Water during Evacuation
Oil Droplets Suspended Sediment Clear

Other
5. All equipment decontaminated in accordance with current sampling and
analysis plan.
and the inchitation of the contraction of the contr

ს. ₁	Type Sample: X Grab Composite	
1.		
2.	Method of Extraction: Teflon Bailer	
3	Condition of Water During Extraction	
	Oil DropletsX Suspended Sediment Slight	
	Oil Phases Clear	
	Muddy Chemical Odor	
	Other	
D.	ON-SITE MEASUREMENTS	
	, <u>First Bailer</u> <u>Last Bailer</u>	
	Temperature <u>18.7</u>	
	pH 5,2 5,2 5.3 5.3 5.4	
	Conductivity 64 63 65 65 66 65	
E.	SAMPLE CONTAINERS	
	Sample Number Container Parameter(s) Preservation	
	None Added	
	By La	b
	40 ml glass vial	
	900403-45C 1 liter amber glass FLUORANTHENE NAPHTHALENE	
	1 gal amber glass	_
	250 ml plastic	
	1/2 gal plastic	
	Other (Describe)	
F.	ON-SITE SAMPLE FILTRATION	
	X None: On-Site (Describe Method & Containers)	
G.	CONTAINER HANDLING:	
	X Container Sides Labeled	
	X Containers Placed in Ice Chest	
	Y Chain-of-Custody documentation completed.	
ដ	X All Equipment Decontaminated in accordance with current sampling ar	ıć
11.	analysis plan.	•
т		
I.	OTHER COMMENTS: NO	
_	2010 2010 2010 2010 2010 2010 2010 2010	
J.	SAMPLER'S SIGNATURE Bill Harris DATE: 4-3-90	
Mα	nitor Wall No Ada	

MONITORING WELL NO. 4D
DATE AND TIME OF SAMPLING: 4-4-90, 19 1050 HOURS
SAMPLE COLLECTED BY: BEH, PWB, FOC, LRB OF B & F ENGINEERING, INC.
WEATHER: SUNNY + HOT SAMPLING LOCATION MOWO SAMPLING PERIOD: QUARTER 19
SAMPLING LOCATION SAMPLING PERIOD:QUARTER 19
A. MONITOR WELL CONDITION:
_X_Locked Unlocked
Well Number ((IS) - IS NOT) Apparent
Steel Casing Condition is: OK
Inner PVC Casing Condition is: ○ <
Depth Measurement Datum (ÎS) - IS NOT) Apparent
Datum for Depth Measurements: $\underline{\hspace{1cm}}$ High point on top of PVC
casing;Other
Total Depth of Well: Actual 45.31 (ft.): Installed(ft)
<u>X</u> Deficiencies Corrected by Sample Collector
χ Repairs Required (Describe): μοπο
B. WELL EVACUATION:
1. Water Depth 29,09 Ft. below datum
Measured With: / Water Level Indicator
Other (Describe:)
2. Purge Method
Pump, (Type:) X Bailer (Size: 3')
3. Volume Removed: (Refer to Bailing Tables)
\times Full Bailers: Required $3z$ Actual $3z$
Well Purged Dry
Gallons, if pumped
4. χ Condition of Water during Evacuation
Oil Droplets Suspended Sediment
${X} \text{ Clear}$
Muddy Chemical Odor
Other
5. \times All equipment decontaminated in accordance with current sampling and
analysis plan.

С,	SAMPLE EXTRACTION:				4.1		
1.	Type Sample: X	Grab			mposite		
2.	Method of Extraction				,		
3	$\underline{\chi}$ Condition of Wat	er During					,
	Oil Droplet	.s		Suspended	l Sediment		
	Oil Phases		X	Clear			
	Muddy		i	Chemical	0dor		
	Other						
	·						
						·	· · · · · · · · · · · · · · · · · · ·
D.	ON-SITE MEASUREMENTS	-		6		Last D	
	•		First	Bailer		Last Ba	itter
		19.0				<u> 19,1</u>	
		5. Z 5.		5,2	5015	5-Z	5.05
		<u>52 5</u>	1	51	<u> 53</u>	50	50
E.	SAMPLE CONTAINERS						
	Sample Number	Containe	<u>er</u>		Parameter(s)		<u>rvation</u>
						None	Added
							By Lab
		40 3 2	1	1		/	
		40 ml gl	IdSS V	ridi Latas P ^C	P, ACENAPHTHYZE NO UOKHNTHENE, NHPTHA		
	900404-40				UOKANTHENE, NHPTHA	LENE V	
		1 gal an	_				
	· ·	250 ml p					
		250 ml p					·
		1/2 gal	•				
		Other ([)escri	ibe)			,
F.	ON-SITE SAMPLE FILTE						
	None:	On-S	ite (D	escribe)	Method & Contai	ners)	
_		·········	•				
G.	CONTAINER HANDLING:						
	<u>K</u> Containe			6 1 1			
	X Container						
	<u></u> ✓ Chain-of						
Н.	XAll Equipment De	contaminat	ed in	n accord	ance with cur	rent samp	iling and
	analysis plan.						
I.	OTHER COMMENTS: No						
J.	SAMPLER'S SIGNATURE	Bil	014	1111	DATE:	4-4-90	2
	nitor Well No 1 n				· · ·		

MONITORING WELL NO. 5A DATE AND TIME OF SAMPLING: 4-3-90, 19 SAMPLE COLLECTED BY: BEH, PUB, LRB WEATHER: SAMPLY & HOT
WEATHER: SUNNY + HOT SAMPLING LOCATION MOWO SAMPLING PERIOD: QUARTER 19
A. MONITOR WELL CONDITION: Locked Unlocked Well Number (IS - IS NOT) Apparent Steel Casing Condition is: OK
Inner PVC Casing Condition is: OK Depth Measurement Datum (IS) - IS NOT) Apparent Datum for Depth Measurements: X High point on top of PVC
Total Depth of Well: Actual <u>\$8,48</u> (ft.): Installed(ft) X Deficiencies Corrected by Sample Collector Repairs Required (Describe): None
B. WELL EVACUATION: 1. Water Depth 33.64
2. Purge Method Pump, (Type: Bailer (Size: 3
3. Volume Removed: (Refer to Bailing Tables)
4. Condition of Water during Evacuation Oil Droplets Suspended Sediment Oil Phases Clear Muddy Other Other
5. X All equipment decontaminated in accordance with current sampling and analysis plan.

С.	SAMPLE EXTRACTION:
1.	Type Sample: X Grab Composite
2.	Method of Extraction: Teflon Bailer
3	∠ Condition of Water During Extraction
	Oil Droplets Suspended Sediment
	Oil Phases <u>X</u> Clear
	Muddy Chemical Odor
	Other
D.	ON-SITE MEASUREMENTS
	, First Bailer Last Bailer
	Temperature 18.4
	pH 6.8 6.6 6.5 6.4 6.5
	Conductivity 222 221 220 221 235 231
Ε.	SAMPLE CONTAINERS
	Sample Number Container Parameter(s) Preservation
	None Added
	By Lab
	40 ml glass vial
	1 liter amber glass
	900403-5A 1 gal amber glass FLOORANDTHENE NAPHTHALENE
	250 lift prastic
	250 ml plastic
	1/2 gal plastic
	Other (Describe)
F.	ON-SITE SAMPLE FILTRATION
	None:On-Site (Describe Method & Containers)
G.	CONTAINER HANDLING:
	$\underline{\mathcal{X}}$ Container Sides Labeled
	$\overline{\chi}$ Containers Placed in Ice Chest
н.	χ All Equipment Decontaminated in accordance with current sampling and
	analysis plan.
I.	OTHER COMMENTS: NO
J.	SAMPLER'S SIGNATURE Bill Huris DATE: 4-3-90
	onitor Well No. 5/4

MONITORING WELL NO. 5c.	
DATE AND TIME OF SAMPLING: 4-4-90 , 19 /000 HOUR	₹S
DATE AND TIME OF SAMPLING: 4-4-90 , 19 /OCC HOUR SAMPLE COLLECTED BY: BEH FOC, PWB, LRB OF B & F ENGINEERING, INC.	J.
WEATHER: SUNNY + HOT	
WEATHER: Sandy + Hot SAMPLING LOCATION Mowe SAMPLING PERIOD: QUARTER 19	_
A. MONITOR WELL CONDITION:	
X Locked Unlocked	
Well Number (18 - IS NOT) Apparent	
Steel Casing Condition is: OK	
Inner PVC Casing Condition is: OK	
Depth Measurement Datum (IS) - IS NOT) Apparent	
Datum for Depth Measurements: χ High point on top of P	/C
casing: Other	
Total Depth of Well: Actual 64.81 (ft.): Installed(ft	t)
X Deficiencies Corrected by Sample Collector	
X Repairs Required (Describe): Now=	
B. WELL EVACUATION:	
1. Water Depth 30.28 Ft. below datum	
Measured With: χ Water Level Indicator	
Other (Describe:	1
)
2. Purge Method	
Pump, (Type:)	
Bailer (Size: 3')	
3. Volume Removed: (Refer to Bailing Tables)	
X Full Bailers: Required 69 Actual 32	
Well Purged Dry	
Gallons, if pumped	
4. $\underline{\chi}$ Condition of Water during Evacuation	
Oil Droplets Suspended Sediment	
Oil Phases $\underline{\chi}$ Clear	
Muddy Chemical Odor	
Muddy Chemical Odor Other	
	_

С.	SAMPLE EXTRACTION:	ο ι	0	
1.	Type Sample: X	Grab	Composite	
2.	Method of Extraction	· ·		
3.		er During Extracti		
	Oil Droplet		spended Sediment	
	Oil Phases	<u></u> € Cle	ear	
	Muddy	Che	emical Odor	
	Other	•		
D.	ON-SITE MEASUREMENTS			,
٠.	,	First Ba	ailer	Last Bailer
	Temperature !		1101	18.0
		7.1	5.6 5.5	5.4 5.4
	pH	5.6		
_		<u>33 59</u> _	36 48	<u>35 35 </u>
Ε.	SAMPLE CONTAINERS		D	Dunconvotion
	Sample Number	<u>Container</u>	Parameter(s)	Preservation
				None Added
				By Lab
		40 ml glass via] .	./
	<u> </u>	1 liter ambor a	lass PCP ACENAPHTHYLL	EWE_
	900404-5C	1 and ambon als	CC FLOORANTHENE, NAPATH	ALENG
	· · · · · · · · · · · · · · · · · · ·	1 gal amber gla	22	
	·	250 ml plastic	:	
	· · · · · · · · · · · · · · · · · · ·	250 ml plastic		<u> </u>
		1/2 gal plastic		
	· · · · · · · · · · · · · · · · · · ·	Other (Describe)	
F.	ON-SITE SAMPLE FILTE	**************************************		
	None:	On-Site (Des	cribe Method & Conta	iners)
G.	CONTAINER HANDLING:	•		
-	✓ Containe	[~] Sides Labeled		
	Container	rs Placed in Ice C	hest	
		-Custody documenta		
н.	. 		accordance with cur	rent sampling and
•••	analysis plan.	Companie made a mi		
T	OTHER COMMENTS:	414	•	
Ι.	OTHER COMMENTS:	<u> </u>		
	· · · · · · · · · · · · · · · · · · ·			
_		2:10-11	, DATE	1100
	SAMPLER'S SIGNATURE	Tell Ham	<u>م</u> DAIE:	4-4-40
Mo	nitor Well No. Co			

O/11/1	THER: Samue + Hat PLING LOCATION Mowo SAMPLING PERIOD: QUARTER 19
Α.	MONITOR WELL CONDITION:
	∠ Locked Unlocked
	Well Number ((S) - IS NOT) Apparent
	Steel Casing Condition is: <u>CK</u>
	Inner PVC Casing Condition is: OK
	Depth Measurement Datum (IS) - IS NOT) Apparent
	Datum for Depth Measurements: X High point on top of PV(
	casing; Other Total Depth of Well: Actual <u>52.58</u> (ft.): Installed (ft)
	χ' Deficiencies Corrected by Sample Collector
	$\underline{\chi}$ Repairs Required (Describe): \underline{NonE}
	A Reputit's Redutited (Describe). None
	· ·
_	
	WELL EVACUATION:
	Water Depth 27,42 Ft. below datum
	Water Depth 27,42 Ft. below datum Measured With: Water Level Indicator
	Water Depth 27,42 Ft. below datum
1.	Water Depth 27,42 Ft. below datum Measured With: Water Level Indicator
1.	Water Depth 27.42 Ft. below datum Measured With: Water Level Indicator Other (Describe: Purge Method
1.	Water Depth 27,42 Ft. below datum Measured With: Water Level Indicator Other (Describe:
2.	Water Depth 27.42 Ft. below datum Measured With: Water Level Indicator Other (Describe: Purge Method
2.	Water Depth Z7.4Z Ft. below datum Measured With: X Water Level Indicator Other (Describe: Purge Method Pump, (Type:) X Bailer (Size: 3')
2.	Water Depth 27.42 Ft. below datum Measured With: X Water Level Indicator Other (Describe: Purge Method Pump, (Type: Bailer (Size: 3') Volume Removed: (Refer to Bailing Tables)
2.	Water Depth Z7, 4Z Ft. below datum Measured With: X Water Level Indicator Other (Describe: Purge Method Pump, (Type: Bailer (Size: 3') Volume Removed: (Refer to Bailing Tables) X Full Bailers: Required 50 Actual X Well Purged Dry Gallons, if pumped
 2. 3. 	Water Depth 27.42 Ft. below datum Measured With: X Water Level Indicator Other (Describe: Purge Method Pump, (Type: X Bailer (Size: 3' Volume Removed: (Refer to Bailing Tables) X Full Bailers: Required 50 Actual 27 X Well Purged Dry Gallons, if pumped X Condition of Water during Evacuation
 2. 3. 	Water Depth Z_7, 4 Z Ft. below datum
 2. 3. 	Water Depth 27,42 Ft. below datum Measured With: Water Level Indicator Other (Describe: Purge Method Pump, (Type: X Bailer (Size: 3') Volume Removed: (Refer to Bailing Tables) X Full Bailers: Required 50 Actual 27 X Well Purged Dry Gallons, if pumped X Condition of Water during Evacuation Oil Droplets Suspended Sediment Oil Phases Y Clear
 2. 3. 	Water Depth Z_7, 4 Z Ft. below datum

С.	SAMPLE EXTRACTION:			,
1.	Type Sample:		Composite	•
2.	Method of Extraction:			
3 .	★ Condition of Water	During Extraction		
	Oil Droplets	Suspend	ed Sediment	
	0il Phases	× Clear		
	 Muddy	Chemica	l Odor	•
	Other			
			······································	
D.	ON-SITE MEASUREMENTS		· · · · · · · · · · · · · · · · · · ·	
٠.	on 3112 (IE/IOONE/IE/II-	First Bailer		Last Bailer
	Temperature $\stackrel{\circ}{c}$	··········	•	18.0
			5.25	5.15
	pH <u>5.2</u>		- <u>- 78</u>	75 76
_	<u> </u>	<u> 78 _ 78 _ 78 _ </u>		15 70
Ε.	SAMPLE CONTAINERS	0	Parameter(s)	Preservation
	Sample Number	Container	Parameter (3)	
		•		By Lab
	•	40 ml glass vial		
		1 liter amber glass	OCP, ACENHPHTHYLE A	IE
•	900404-5D	1 gal amber glass	LEO RANTHENE NAPHIA	Heero E
	<u> </u>	•	<u></u>	
		250 ml plastic		
		250 ml plastic		
	The second secon	1/2 gal plastic		
_		Other (Describe)		
F.	ON-SITE SAMPLE FILTRAT			
	<u> </u>	On-Site (Describe	e Method & Contain	ners)
		·		
G.	CONTAINER HANDLING:			
	<u>X</u> Container S			·
		Placed in Ice Chest		
	<u></u> Chain-of-Cι	ustody documentation	completed.	
Н.	XAll Equipment Deco	ntaminated in acco	rdance with curr	ent sampling and
	analysis plan.			
Ι.	OTHER COMMENTS: No			
		<u> </u>		
J.	SAMPLER'S SIGNATURE	Rill Alancia	DATE: 4	-4-90
	onitor Well No.50	July Harris		
riu	ALLOUS RELIATORS IV			

	U.,	SAMPLE EXTRACTION:
	1.	Type Sample: X Grab Composite
	2.	Method of Extraction: Teflon Bailer
`}		
)	. 3	Condition of Water During Extraction
		Oil DropletsX Suspended Sediment
		Oil Phases Clear
		Muddy Chemical Odor
		Other
		OCHE
		·
	D.	ON-SITE MEASUREMENTS
		, First Bailer Last Bailer
		pH 5.9 6.0 5.9 5.8 5.4 5.2
		Conductivity 63 63 62 62 61 61
	E.	SAMPLE CONTAINERS
		Sample Number Container Parameter(s) Preservation
		None Added
		By Lab
		400403-6A 40 ml glass vial FLUORANTHENE, NAPTHALENE V
		900403-64 40-ml glass vial FCUORANTHENE, NAPTHALENE V
v E	actor.	1 liter amber glass
¥ F	2.64	250 ml plastic
Cor	4	~ - √ - √ - √ - √ - √ - √ - √ - √ - √ -
jo 🔑	ter	4 250 ml plastic
		1/2 gal plastic
		Other (Describe)
	-	
	F.	ON-SITE SAMPLE FILTRATION
		None: On-Site (Describe Method & Containers)
		/ ¹
	G.	CONTAINER HANDLING:
		√ Container Sides Labeled
		
		$\frac{X}{X}$ Containers Placed in Ice Chest
		$\underline{\hspace{0.1cm} \hspace{0.1cm} \hspace{0.1cm}$
	Н.	$\underline{\chi}$ All Equipment Decontaminated in accordance with current sampling and
		analysis plan.
	т	
	Ι.	OTHER COMMENTS: \mathcal{N}_{\diamond}
	•	
	J.	SAMPLER'S SIGNATURE Bill Harris DATE: 4-3-90
		niton Holl No. 1.4

MONITORING WELL NO. 6C DATE AND TIME OF SAMPLING: 4-3-90, 19 1710 HOURS SAMPLE COLLECTED BY: BEHILRB, PWB OF B & F ENGINEERING, INC. WEATHER:
WEATHER: SUNDY + HOF SAMPLING LOCATION MOW. SAMPLING PERIOD: QUARTER 19
A. MONITOR WELL CONDITION: X Locked Unlocked Well Number (15 - IS NOT) Apparent Steel Casing Condition is: EK Inner PVC Casing Condition is: OK Depth Measurement Datum (15 - IS NOT) Apparent Datum for Depth Measurements: Y High point on top of PVC casing;Other
Total Depth of Well: Actual <u>28.85</u> (ft.): Installed (ft) Deficiencies Corrected by Sample Collector Repairs Required (Describe): None
B. WELL EVACUATION: 1. Water Depth Ft. below datum Measured With: Water Level Indicator Other (Describe:)
2. Purge Method Pump, (Type:) XBailer (Size:3') 3. Volume Removed: (Refer to Bailing Tables) XFull Bailers: Required33
Gallons, if pumped 4. X Condition of Water during Evacuation Oil Droplets Suspended Sediment Oil Phases X Clear Muddy X Chemical Odor Shight Other
5. X All equipment decontaminated in accordance with current sampling and analysis plan.

1.	Type Sample:		Composite		
2. 3	Method of Extraction: Condition of Wate Oil Droplets Oil Phases Muddy Other	r During Extraction	led Sediment 1 Odor		
D.	ON-SITE MEASUREMENTS		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	
		<u>First Bailer</u>	• - .	<u>Last Ba</u>	<u>iler</u>
		9		16,6	
E.	pH <u>S.</u> Conductivity /oz SAMPLE CONTAINERS			<u>5.4</u> <u>109</u>	<u>5,3</u> 107
_•	Sample Number	Container	Parameter(s)	Preser	vation
	 			None	Added
		111 11 11 11 11			By Lab
		All Amber Wirs 40 ml glass vial		./	
÷	900403-60	1 liter amber glass	PCP, ACENAPHTHYCENE		
[Bailes	-6c-1 -6c-3 -6c-4	1 gal amber glass	ILVOR <u>ANTHENE JORFA</u> T.	//////////////////////////////////////	
Propi	- Gc · Z	2 50 ml plasti c	1/	. 7	
Comp. mete	-60-3	2 50 ml-plasti c	11		
pHmeta	<u>-6:-4</u>	1/2 gal plast ic	- //		
		Other (Describe)		···-	
F.	ON-SITE SAMPLE FILTRA		, ,		
	<u></u>	On-Site (Describe	e Method & Contai	ners)	
G.	CONTAINER HANDLING: X Container	Sides Labeled			
		Placed in Ice Chest			
		Custody documentation	completed.		
н.	XA11 Equipment Dec	ontaminated in accor	dance with curr	ent sampl	ling and
	analysis plan.				
I.	OTHER COMMENTS: PO				
			-		
	SAMPLER'S SIGNATURE	Bill Harris	DATE:	-3-90	<u></u>

JEATHER: _ SAMPLING L	LLECTED BY:	· · · · · · · · · · · · · · · · · · ·		\n \text{\text{E}}			
SAMPLING L				UF	BAFE	NGINEERING,	, INC.
. MONITO	LOCATION FIREHO	USE	SAMPLING	PERIOD:		QUARTER	₹ 19_
	OR WELL CONDITION:						—· —
	Locked		ed			ı	
	Well Number (IS -	IS NOT)	Apparent				
	Steel Casing Cond						
MIM	Inner PVC Casing	Condition	is:				
~/ <i>/</i> #	Depth Measurement				nt		
	Datum for Depth N					nt on top o	of PV
	casing;	Other			• ,	,	
	Total Depth of We	:11: Actu	al	(ft.):	Install	ed	(ft
	Deficiencies Corr						`
	Repairs Required	(Describe):				
	Depth Other (D		CI ECICI .	ind i ca coi			
· 🖴	Method				•		
π	Pump, (Type:)		
	Bailer (Size:						
_	Removed: (Refer						
	_ Full Bailers: R Well Purged Dry	equirea _		A	ctual		
• -	_ well purged bry Gallons, if pump	od				•	
	_ darions, if pump ondition of Water		acuation				
•	Oil Droplets	dui ing Lv		ded Sed im	ont		
/, -	Oil Phases		Suspend Clear	aca sea iiii	CIIL		
/A -	Muddy			al Odor			
		-					
_						<u> </u>	
,							
AL /AAT	l equipment decor	taminatod	i in accor	idanaa iid	th cure		

	Oil Droplet Oil Phases	\overline{X} o	lear	Sed iment		•
	Muddy Other		hemical	odor		
	other	•				
D.	ON-SITE MEASUREMENTS		0		1 4 - D - 3	• ¬
	Temperature 1	1.0	Valle r		1-851-148-1	+e r
		9,4	9,5	9.5		
		90	90	90		
Ε.	SAMPLE CONTAINERS					
	Sample Number	Container		Parameter(s)	Preserv	ation
	E 19				None	Added
						By La
		40 ml glass vi	al			
	900404-FH	1 liter amber			***************************************	
		1 gal amber gl	ass			
	F .	250 ml plastic				
		250 ml plastic				'
		1/2 gal plasti		· · · · · · · · · · · · · · · · · · ·		, .
F.	ON-SITE SAMPLE FILTR	Other (Describ	ej	 		
•	None:		ecriba A	Method & Contain	ore)	
		011 3100 (00	SCI IDC I	accioa a contant	C(3)	<u> </u>
G.	CONTAINER HANDLING:					<u>*</u>
		Sides Labeled				
	Container	s Placed in Ice	Chest		. 4	
,	Chain-of-	Custody document	ation co	ompleted.	wit.	
H//	All Equipment Dec	contaminated in	accorda	ince with curre	ent sampl	ing ar
-	analysis plan.					
Ι.	OTHER COMMENTS:	0			<u></u>	
				 		
			•			

APPENDIX G PROPOSED GROUND-WATER MONITORING NETWORK

APPENDIX G

Ground-Water Monitoring Network Plan

1.0 General

The following discussion of the monitoring well network will reference the existing piezometers and their current designations. The new designations reflecting their administrative change from piezometers to monitoring wells will be presented at the end of this section.

2.0 Monitoring Well Locations

Ground-water flow patterns as well as geologic and topographic conditions at the site limit potential upgradient well locations to that portion of the facility which is west of the 5200 foot Easting coordinate line, and south of the ground-water divide as depicted in Drawings 6 - 11. The wells located at P-1 currently serve as the upgradient well nest for the monitoring well network.

Nested wells have also been located downgradient of the following units: the resource recovery area, kickback drippage area, and the hazardous waste management units. Downgradient nested well locations are P-2, P-4, P-5, and P-6.

3.0 Aquifer Intervals

Well completion intervals were originally targeted to investigate the first two significant saturated sand units in the uppermost aquifer at the site, as well as the sand unit below what had been defined in the PSI (1988) as the base of the uppermost aquifer. However, not all completion intervals selected during the well installation phase correlated with the original targeted intervals. The sand interval(s) in which each well was completed may be determined from the geologic cross sections presented as Drawing 5. Table G.1 presents the monitoring well designation, interval(s) in which a well was completed, and existing piezometer name of each well in the proposed monitoring well network. Drawing 12 illustrates the locations of each monitoring well in the proposed ground-water monitoring network.

TABLE G.1

Monitoring Well, Sand Interval, and Piezometer Name Correlation

Monitor <u>Well</u>	Sand Interval	Piezometer	Monitor <u>Well</u>	Sand Interval	Piezometer
MW-1D MW-1CD MW-1A	Du - Dm Dl - Cu A	P-1D P-1C P-1A	MW-5D MW-5C MW-5A	Du - Dm Cu - Cl A	P-5D P-5C P-5A
MW-2E MW-2D MW-2A	Du – Dm A	P-2D P-2C P-2A	MW-6C MW-6A	Cl A	P-6C P-6A
MW - 4G MW - 4D MW - 4A	Gl Du A	P-4D P-4C P-4A			

OKDO07335529

ROUND-WATER SAMPLING AND ANALYSIS PLAN

FOR

MONITORING WELLS
AT THE
THOMASON LUMBER AND TIMBER COMPANY
WOOD TREATMENT PLANT
BROKEN BOW, OKLAHOMA

B&F PROJECT NO. 7-2397-0101



ENGINEERING, INC.

OKD 007335524

GROUND-WATER SAMPLING AND ANALYSIS PLAN

FOR

MONITORING WELLS

THOMASON LUMBER AND TIMBER COMPANY
WOOD TREATMENT PLANT

BROKEN BOW, OKLAHOMA

B&F PROJECT NO. 7-2397-0101

PREPARED FOR:

THOMASON LUMBER AND TIMBER COMPANY P.O. DRAWER 278
BROKEN BOW, OKLAHOMA 74738

PREPARED BY:

B&F ENGINEERING, INC. 928 AIRPORT ROAD HOT SPRINGS, ARKANSAS 71913

FEBRUARY 23, 1990

TABLE OF CONTENTS

1.	Introduction 1	
2.	Well Development 2	
3.	Maintenance and Security 2	-3
4.	Ground-Water Level Measurements	4
5.	Ground-Water Sampling Procedures 4 5.1 Well Evacuation Procedures 4 5.2 Sample Collection 5 5.2.1 Sampling Records 5 5.2.2 Preventing Cross Contamination 6 5.2.3 Sampling Order 6 5.2.4 Sample Extraction 7 5.2.5 In-Situ Measurements 7	-5 -6 -7
6.	Decontamination Procedures 9 6.1 Bailers 9 6.2 Probes 1	
7.	Field Quality Control	0
8 .	Sample Containers and Preservation 1	2
9.	Sample Handling, Transport and Custody	2-13 4 5
10.	Laboratory Analysis 1	6-17
11.	Data Evaluation and Reporting 1	7-18

LIST OF APPENDICES

Α	Ground-water Sampling Records
В	Water Level / Total Depth Records
C	Instrument Calibration Records
D	Equipment Decontamination Records
E	Chain - of - Custody Records
F	Equipment and Supplies Checklist

LIST OF FIGURES

Figure 1.1 Location of Monitoring Wells

LIST OF TABLES

Table 10.1 1989 Parameters for Ground-Water Monitoring

GROUND-WATER SAMPLING AND ANALYSIS PLAN

1.0 Introduction

The Thomason Lumber and Timber Company (Thomason), Broken Bow, Oklahoma, wood treatment plant has used both Creosote and Pentachlorphenol (PCP) as preservative agents during its period of operation. The presence of these compounds may be determined either by direct analysis, or through the use of indicator compounds. The wood preservative PCP may be detected in ground water by direct chemical analysis. Creosote, which is actually a mixture of a large number of organic compounds in relatively low percentages is detected in ground water by analyses for indicators.

Bart (E. F. Bart, "The Chemistry of Creosote", Creosote Technical and Environmental Seminar, undated) has performed a detailed evaluation of the chemistry of creosote. A copy of that report was presented as Appendix B of the Process Area Sampling and Analysis Plan, Thomason Lumber and Timber Company, Broken Bow Wood Treating Plant, February 4, 1987. Bart identified creosote as a chemical mixture of as many as 200 compounds. Based on the work by Bart and data from the Handbook of Chemistry and Physics

Thomason proposes to analyze ground-water samples for PCP as well as the following Creosote indicators:

- Acenapthylene
- Napthalene
- Fluoranthene

2.0 Monitoring Well Development

Wells to be used for water-quality evaluation will be developed by hand bailing until the water is clear and free of sediment as determined by the site hydrogeologist. Water removed from the wells will be discharged into DOT approved drums placed beside each well. As necessary, water will be transferred from each well drum to the Separator/Evaporator, where the water will be disposed. Dedicated Teflon bailers will be used to bail the wells. Each bailer will be decontaminated prior to, and after each use according to the procedures given in Section 6.1. Monitoring well locations are illustrated in Figure 1.

3.0 Maintenance and Security

Each time samples are collected, the sampler will inspect the well, note anomalous measurements and examine the collected sample for evidence of well failure. Such evidence will include, but not be limited to:

- cracks in the well pad,
- obvious elevation changes in the top of the well casing,
- anomalous water level readings,

- unusual water discoloration,
- excessive sediment.

The general condition of the well shall be noted on the Ground - water Sampling Record form as provided in Appendix A. Excessive sedimentation will be assessed by measuring the depth to the bottom of the well and by comparing that measurement to the installed depth.

All wells are provided with protective steel security casing and locks. Samplers will check each lock for evidence of tampering prior to collecting the sample and will lock each well after the sample is collected.

4.0 Ground-Water Level Measurements

Measurements for all monitoring and/or observation wells for which integrity has been assured will be made within a very short time interval (24 hours or less), to avoid collecting apparently anomalous water-level data due to natural variability. Water levels will be measured prior to the purging of wells to be sampled. Water-level measurements will be made to the nearest 0.01 feet. Data from these measurements will be utilized to construct potentiometric surface contour maps in order to monitor ground-water flow patterns and rates.

4.1 Measurement Technique

An electric wire line will be used to measure the air/water interface within a monitoring well. After removing the locking and protective caps from each well, the sampler will lower the

wireline into the well. The depth at which the water surface is encountered will be measured from the top of the casing. The probe will then be lowered to the bottom of the well. This procedure will allow a determination of the depth to water, and the total depth of the well. Water-level and total-depth measurements will be recorded on the standardized form in Appendix B as well as in the Ground-water Sampling Record.

4.2 Decontamination

The equipment used to obtain water-level measurements will be placed in a plastic bag after each use, and transported to the decontamination site where it will be cleaned according to procedures described in Section 6.1 with the exception of the solvent rinse. No solvent rinse will be used due to its detrimental effects to the wireline.

5.0 Ground-water Sampling Procedures

5.1 Well Evacuation Procedures

Prior to evacuating each well, a clean plastic drop cloth will be placed around the well to prevent surface soils from coming into contact with the purging equipment. The cloth will be remain in place during the entire sampling period. A new cloth will be placed around the well whenever necessary to in order to assure that contamination from surface soils is minimized.

Before collecting any ground-water samples, each well will be purged. This procedure will be followed to provide adequate

assurance that the samples collected are representative of ground-water in the interval being monitored. Where feasible, three casing volumes will be removed from each monitoring well prior to sampling. In cases where full recovery exceeds three hours, a sample will be collected as soon as sufficient volume is available after purging the well dry.

Purging equipment will consist of dedicated teflon bailers. Each bailer will be thoroughly decontaminated both prior to, and after each use. Decontamination procedures are discussed in Section 6.1.

The purged water will be discharged to dedicated containers located at each well site. Containers will be capped when not in use. Prior to purging each well the containers to receive discharge waters will be inspected to assure that leakage during holding time will not occur. After each sampling period, water will be transferred from the containers around the wells to the water treatment system located at the site.

5.2 Sample Collection

5.2.1 Sampling Records

In order to provide complete documentation of the on-site aspects of the sampling episode, detailed sampling records for each well will be prepared. These records will include the information listed below:

- sample location (facility name and monitoring well number),

- date and time of sampling,
- sample description (type and volume)
- sample observation (appearance, odor, other comments),
- sampling method,
- well evacuation method and water volume evacuated,
- field observations and measurements (if applicable),
- sample preservation techniques,
- depth to water level,
- weather conditions,
- sample collector,
- any other pertinent information.

A copy of the Ground-water Sampling Record form is contained in Appendix A.

5.2.2 Preventing Contamination of Samples

The following procedures will be used in order to prevent the contamination of samples. A clean pair of new, disposable gloves will be worn each time a sample is collected. Only new or decontaminated sampling equipment will be used for purging and sample collection. One member of the sampling team will take all notes, complete sample labels, etc., while other team members collect the sample. After collection, samples will not be handled more than is necessary.

5.2.3 Sampling Order

Sampling will proceed from monitoring wells with the likelihood of least contamination, if any, to those with the likelihood of

most contamination. The determination of most and least contaminated will be made by the Project Hydrogeologist based on proximity to potential sources and sampling data from the previous sampling period.

5.2.4 Sample Extraction

A dedicated bailer will be used for sample extraction. Each bailer will be decontaminated both prior to, and after use as discussed in Section 6.1. Care will be taken during insertion of sampling equipment to prevent undue disturbance of water in the well. Water will be extracted from the well and discharged to a clean sample container provided by the receiving laboratory.

5.2.5 In-Situ Measurements

Measurements taken at the sampling site will include measurements of pH, temperature and specific conductance of unpreserved samples at the monitoring well site. The measurements will be made in clean glass or plastic containers separate from those intended for transport of samples to the laboratory. After each measurement, the water will be placed in containers located at each well site, the contents of which will be disposed of in accordance with State and Federal regulations. The instrument probes will be decontaminated between measurements in accordance with the procedures in Section 6.1 in order to eliminate cross contamination.

Instrumentation used for in-situ measurements will be calibrated as discussed below. The following specific calibration procedures apply:

- (1) pH meters will be calibrated prior to the first sample measurement of each sampling day and again after the final sampling event of the day. The "two point" calibration method will be used with aliquots of standard pH solutions 7.0 and 4.0 that are traceable to primary standards of Bureau of Standards (NBS). These standard National solutions will be used as QC check samples following every three measurements to verify calibration. Ιſ drifts more than 0.2 pH units, the meter will be recalibrated and noted on field sheets.
- (2) Conductivity meter calibration will be checked prior to the first sample measurement of each sample day and again after the final sample measurement of the day using an NBS traceable standard solution of potassium chloride.
- (3) Calibration of temperature thermistors will be checked prior to the first sample measurement of each day and again after the final sample of each day using an NBS traceable thermometer.

Records of field calibrations for these instruments will be maintained on the standard form provided in Appendix C. These records will include:

- calibration date
- person calibrating instrument
- standards used
- problems, if any, with the calibration procedures.

6.0 Decontamination Procedures

6.1 Bailers

After each use, the bailers will be individually placed into clean plastic bags and taken to the specified decontamination facility for decontamination. The line used to lower the bailer into the well will be discarded in accordance with Federal and State Regulations. Each bailer will be disassembled and all parts will be washed as follows:

- a. Clean with a laboratory grade detergent such as (ALCONOX). One brush will be dedicated to each bailer for this purpose.
- b. Rinse with tap water.
- c. Rinse with solvent (acetone or hexane) (Bailers only).
- d. Rinse with distilled water.
- e. Hand dry with clean paper towels and place in clean plastic bags.
- f. Store in dedicated PVC or plastic bailer cases until next use.

Records of decontamination will be maintained on the standardized form provided in Appendix D. The effectiveness of decontamination procedures will be verified by means of selected equipment blanks on the bailers. Each bailer will be stored in an individual bailer case and stored at a secure location.

6.2 Probes

Decontamination of the electric wireline and any other probe to be placed either in wells or in contact with samples will follow the procedures discussed in Section 6.1. The effectiveness of decontamination procedures will be verified by means of equipment blanks on the probe.

7.0 Field Quality Control

The following sections provide information on the Quality Assurance/Quality Control (QA/QC) to be utilized in the ground-water sampling and analysis program.

7.1 Sample Identification

Samples collected from wells will be identified by well numbers. Arbitrary numbers will be assigned to blank, duplicate and split samples.

7.2 Analytical Quality Control

Trip blanks, equipment blanks and field blanks will be included in sampling and analytical laboratory analyses as a quality control operation. These procedures will be performed at least once with each analytical batch or as otherwise stated below.

TRIP BLANKS -- Cleanliness of sample bottles will be verified by the use of trip blanks. One of each type of sample bottle per analytical batch or a minimum of one of each type of sample bottle per twenty (20) sample bottles will be filled with Type II water at the receiving laboratory, transported to the site,

handled like a sample, and returned to the laboratory for analysis.

EQUIPMENT BLANK -- In order to verify that sampling equipment has been effectively decontaminated, bailers will be rinsed with a with Type II (dionized) water. The contents of the blank will be poured through the decontaminated bailer, collected and returned to the receiving laboratory for analysis. One equipment blank will be prepared at random for each Analytical Batch or at minimum one per twenty (20) samples.

FIELD BLANKS -- Background contamination due to sample collection and processing will be estimated with field blanks. Sample containers will be transported to selected sites, filled with distilled water and returned to the laboratory for analysis in a manner identical to the handling procedures used for other samples. A minimum of one field blank will be included with each Analytical Batch or for each twenty (20) samples collected.

DUPLICATE SAMPLES -- Precision of the total measurement system will be estimated with duplicates. A duplicate sample will be analyzed with every Analytical Batch or once in twenty (20) samples, which ever is the greater frequency. Duplicates will be sent to the receiving laboratory as "blind" samples along with the routine samples.

8.0 Sample Containers and Preservation

Samples will be properly prepared for transportation to the receiving laboratory by refrigeration and, where required, chemical preservation. The analytical laboratory will provide all sample containers. The analytical laboratory will also add any necessary chemical preservatives to the containers prior to sealing for shipment to the site. Labels will be firmly attached to the sides of the containers and will contain the following information:

- sample location number,
- facility name,
- analyses requested,
- preservatives added, where applicable,
- date of sampling and time of collection,
- initials of sample collectors.

New sample containers will be used for all ground-water samples collected. At least 5% of the samples per sampling event that require preservation to pH<2 will be verified as being correct pH by measuring pH on a small aliquot extracted from the sample bottle.

9.0 Sample Handling, Transport and Custody

9.1 Sample Packaging

Prior to sample collection, the following information will be legibly and indelibly recorded on the label:

- sample location number,
- facility name,
- sampling date and time,
- analyses requested,
- sample collector's initials,
- preservatives added, where applicable,



The label will then be sealed with clear, plastic tape. After the sample is collected, it will be placed in an ice chest for preservation and shipment. Care will be taken to package sample containers so that they will not leak, spill, vaporize, or break. Each shipping container (ice chest) will be labeled with:

- sample collector's name, address, and telephone number,
- laboratory's name, address, and telephone number,
- description of samples,
- number of samples,
- date of shipment.

Properly completed Chain-of-Custody documentation will be prepared and attached to the shipping container. The container will be sealed with packaging tape so that the Chain-of-Custody documentation will be immediately apparent to the receiving laboratory personnel receiving the container but will not be damaged or lost during shipping. The transport of samples to the Analytical Laboratory will be in accordance with Department of Transportation regulations for the shipment of hazardous waste materials.

9.2 Chain-of-Custody Documentation

Chain-of-Custody procedures will be followed to establish a written record concerning sample transport from the sampling site to the analytical laboratory. The sampling crew chief will be responsible for the care and custody of the samples collected until they are transferred or dispatched properly.

Each shipping container (ice chest) will have attached a chain-of-custody form completed by the crew chief. After verification by the sample transporter, the chain-of-custody will be sealed in an envelope and attached to the ice chest to be shipped to the receiving laboratory. Upon receipt, the laboratory will complete and duplicate the form. The original chain-of-custody document will then be returned to the party responsible for maintaining the project files.

A copy of a Chain-of-Custody form is provided in Appendix E. The record must contain the following minimum information:

- Collector's sample number
- Signature of collector,
- Date and time of collection,
- Place and address of collection,
- Matrix type,
- Preservatives added,
- Analysis requested,
- Signatures involved in the chain of possession,
- Inclusive dates of possession.

9.3 Sample Shipment

Prior to leaving the Thomason site, the sample transporter will inspect the condition of the samples along with the Chain-of-Custody documentation to verify that bottles were correctly labeled and to confirm that samples were being shipped to the correct laboratory(s). The transporter will then sign the Chain-of-Custody form and transport the samples directly to the analytical facility.

9.4 Receipt and Logging of Sample

sample custodian will receive the samples at the laboratory. Upon receipt of the samples, the custodian will be required to inspect the condition of the samples, reconcile the information on the sample label with that on the Chain-of-Custody record, assign a laboratory number, log the sample in the laboratory book, and store the sample in a secured storage assigned for analysis. Results of the inspection will be the Chain-of-Custody record and the laboratory sample Discrepancies between the information on the sample label, Chain-of-Custody record, and on the sample analysis request will be resolved before the sample is assigned for analysis.

10.0 Laboratory Analysis

Table 10.1 presents a summary of analytes that will be measured and the analytical methods that will be used. All methods are from Test Methods for Evaluating Solid Waste, Second Edition, SW-846 (EPA, 1982) except where noted. Following analysis, the analytical laboratory will dispose of all remaining sample and residues in accordance with State and Federal regulations.

Table 10.1
PARAMETERS FOR GROUND WATER MONITORING

Base/Neutrals/Acid Extractables

Pentachlorophenol	EPA	3550
Acenapthylene	EPA	8040
Napthalene	EPA	8040
Fluoranthene	EPA	8010

Initially, all analytes will be evaluated for each of monitoring wells. Samples will be collected every two (2) months for the first 12 months of the sampling program and according to the procedures described in the Ground-water Sampling Analysis Plan (SAP). If, after the 12 month period of sampling is completed, statistical evaluations indicate no evidence of ground-water contamination significantly different from background samples is found, the ground water sampling will cease. If statistical evaluation indicates the presence of contamination, sampling will continue on a quarterly basis until ground-water assessment plan is submitted by Thomason and

approved by the U.S. EPA. The ground-water assessment plan will revise and establish a new sampling program to be implemented and carried out through remediation of the contaminated ground water. The revised sampling and analysis procedures developed in the ground-water assessment plan will replace the current ground-water sampling and analysis plan.

11.0 Data Evaluation and Reporting

evaluation will conform to regulatory agency Data requirements. Statistical analyses will be performed upon receipt analytical laboratory results. Field blanks, trip blanks, equipment blanks and sample duplicates will be analyzed by the laboratory for quality assurance and quality control analytical Results of each of these will be evaluated to document (QA/QC). the integrity of sampling and analytical procedures.

The analytical laboratory will be requested to report the following:

- sample identification number(s)
- laboratory control numbers(s)
- analytical procedure(s) used for each analyte
- maximum holding time for each analyte
- date and time of analysis for each analyte
- equipment calibration results and date of last calibration (where applicable)
- minimum detection limits for each analyte
- analytical results of analytes for each sample
- date data was reported.

Results of both laboratory data and statistical evaluations will be submitted to EPA within forty-five (45) days of receipt of analytical laboratory results. In addition, an annual report will be submitted to the EPA on or before February 15 each year that this plan is in effect.

APPENDIX A Ground-water Sampling Records

THOMASON LUMBER AND TIMBER CO. BROKEN BOW, OKLAHOMA GROUNDWATER SAMPLING RECORD

MONITO	ORING WELL NO	• .	•
DATE /	AND TIME OF SAMPLING:	, 19	HOURS
SAMPLE	E COLLECTED BY:	OF <u>B & F</u>	ENGINEERING, INC.
WEATH	ER:		
SAMPL	ING LOCATION	SAMPLING PERIOD:	QUARTER 19
A. M(ONITOR WELL CONDITION:		
	Locked Unlo	cked	
	Well Number (IS - IS NO		
		is:	
	Inner PVC Casing Condit	ion is:	
	•	(IS - IS NOT) Apparent	
		ements: High p	oint on top of PVC
	casing; Other		
	Total Depth of Well: A	ctual (ft.): Insta	alled (ft)
	Deficiencies Corrected	by Sample Collector	-
_	Repairs Required (Descr	ibe):	
R W	ELL EVACUATION:	·	
1. W	ater Nepth	Ft helow datum	
	ater Depth	Water Level Indicator	
	Other (Describ	e:	. }
	urge Method		
	Pump, (Type:		
	Bailer (Size:	_)	
	olume Removed: (Refer to Ba		•
	Full Bailers: Require	Actual Actual	
	Well Purged Dry		
	Gallons, if pumped		
4	Condition of Water during Oil Droplets	Suspended Sediment	
	Oil Phases	Clear	
	Muddy	Chemical Odor	

	Ochei		
5.	All equipment decontamina	ated in accordance with cu	rrent sampling and
~ • ·····	analysis plan.	The state of the s	Jump ing unu

С.	SAMPLE EXTRACTION:		•	
1.	Type Sample:	Grab	Composite	
2.	Method of Extraction:	Teflon Bailer		
3	Condition of Wate	er During Extraction)	
	Oil Droplets	Suspe	ended Sediment	
	0il Phases	Clear	•	
	 Muddy	Chemi	ical Odor	
	Other			
		<u>,</u>		
D.	ON-SITE MEASUREMENTS			
		First Bail	ler	Last Bailer
	Temperature	,,,==============================		
	pH			
	Conductivity	<u> </u>		
Ε.	SAMPLE CONTAINERS	<u> </u>		
-	Sample Number	Container	Parameter(s)	Preservation
	Sample Number	Conca men	1414110001(0)	None Added
				By Lab
			1	DJ Lab
		40 ml glass vial		
		1 liter amber glas	****	
		1 gal amber glass		
		250 ml plastic		
	A	250 ml plastic		
		1/2 gal plastic		
		Other (Describe)	<u> </u>	
F.	ON-SITE SAMPLE FILTR	•		
' •	None:		ibe Method & Contain	ers)
	Monc.			
G.	CONTAINER HANDLING:			
u.		Sides Labeled		
		s Placed in Ice Che	st.	
		Custody documentati		
ш	All Equipment Dec	•	• =	ent sampling and
п.		Official file act	cordance with carre	and sampling and
	analysis plan.			
I.	OTHER COMMENTS:			
-	<u> </u>			
		·		
	CAMPI ED LO CTOMATURE		nate.	
J.	SAMPLER'S SIGNATURE		DATE:	
MA	ከገፐለም MALL NA			

APPENDIX B

Water-level / Total Depth Records

MISCELLANEOUS																	02/23/90
WATER LEVEL	WATER SURFACE ELEVATION (FT.MSL)	-															INC.
WA	DEPTH FROM REFERÊNCE POINT (FEET)				,												B&F engineering, inc.
TOTAL DEPTH	MEASURED FROM REF.PT. (FEET)					,											ENGIN
	MEASURED BY										,						3&F
	DATE							,	. :								ACAD NO. 049 E
	INSTALLED DEPTH FROM REF.PT. (FEET)												 ·		-		ACAD
NOIL	REFERENCE POINT ELEVATION (FT.MSL)		,							-				**			D TIMBER CC
WELL INFORMATION	GROUND SURFACE WELL PAD) ELEVATION (FT.MSL)				,		Tillet redar	,									THOMASON LUMBER AND TIMBER COMPANY 7-2397-0101
WELL	INSTALLATION (7					JOB NUMBER 7-2397-0101
	LOCATION					r	-										JOB NAME

APPENDIX C Instrument Calibration Records

B&F engineering, inc.

928 AIRPORT ROAD, HOT SPRINGS, ARKANSAS 71913 (501) 767--2366

PH METER CALIBRATION RECORD

DATE	SAMPLE ID	METER READING	FINAL CONC./UNIT	ANALYST
		· · · · · · · · · · · · · · · · · · ·	-	
		·		
				·
	,			
		÷.		
·			<u> </u>	
 				_
		•		
· · ·				
				:
			· · · · · · · · · · · · · · · · · · ·	
· · · · · · · · · · · · · · · · · · ·				
*				
	·			
	 	<u> </u>		
·				
	 	 		

B&F engineering, inc.

928 AIRPORT ROAD, HOT SPRINGS, ARKANSAS 71913 (501) 767-2366

CONDUCTIVITY CALIBRATION

	CONL	<u> </u>	CALIDITATION	
DATE	SAMPLE ID	TEMPERATURE	METER READING	ANALYST
			•	
· · · · · · · · · · · · · · · · · · ·				
	:			
	14.		*	
 				
t t				
<u> </u>				
			•	
		`		
				` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` `
				·
		•		
			,	
		· · · · · · · · · · · · · · · · · · ·		
			·	
			,	2 (
		·		ļ
		·		
	<u> </u>		, <u></u>	
L				<u> </u>

APPENDIX D

Equipment Decontamination Records

DECONTAMINATION RECORD

Type Equipment	<u>Wash Person</u>	<u>Date</u>	<u>Time</u>	Decon Procedure/Remarks
·				
·				
	· · · · · · · · · · · · · · · · · · ·			
		,		
· · · · · · · · · · · · · · · · · · ·				

APPENDIX E

Chain - of - Custody Records

B&F engineering, inc.

CHAIN OF CUSTODY RECORD

928 AIRPORT ROAD HOT SPRINGS, AR 71913 (501) 767–2366

							110011]				(501)	767-2366	99
PROJECT NO.	PROJECT NAME	CI	VAM	ш		, /			PAR	PARAMETERS				
7-2397-0101	Thomason Lumber	оп Т	qun		& Timber Company		əш			-		-		F
SAMPLERS: (Signature)	ture)			LAB	LABORATORY American Interplex	O. OF MINERS	ргүй Тө	лепе перепе						
FIELD SAMPLE NUMBER	DATE TIME		COMP.	GVVO	STATION LOCATION	LCONT	Acenapi	Naptha Naptha						
•														
			-											
			:											
	<u></u>										The first of the second			
-														
Relinguished by:(Signature)	ignature)		te/	Date/Time 	Received by: (Signature)	Relinguished	i	by:(Signature)		Date/Time 	e Received	ved by:	(Signature)	Je J
(Printed)			1		(Printed)	(Printed)					(Printed)	ted)		
Relinguished by:(Signature)	(gnature		te/	Date/Time	Received for Laboratory by:(Signature)	Date/Time		Remarks						
(Printed)					(Printed)					•			٠.	
											-			

APPENDIX F
Equipment and Supplies Checklist

EQUIPMENT AND SUPPLIES CHECK LIST

"Ground-water Sampling Record" Forms

Chain-of-Custody Forms

Envelopes with Lab Mailing Address

Tyvek Clothing

Respirators

Gloves

Bailers

Ice Chests

Ice

Sample Containers

Bailer Cord

Drop Sheets

Garbage Bags

Duct Tape

Sharpies

Clear Plastic Tape